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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROBLEMS IN ORGANIZATION, PLANNING OF SUGAR BEET PRODUCTION IN UKRAINIAN SSR

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 4, Apr 83 pp 41-48

/Article by V. Slyusar', candidate of economic sciences: "Problems Concerned With Improving Production Organization and Planning in the Sugar Beet Complex of the Ukrainian SSR"/

/Text/ Among the priority tasks advanced during the 26th CPSU Congress, the implementation of the USSR Food Program is the central problem of the entire five-year plan from both an economic and political standpoint. As is known, the task of this program consists of ensuring a continuous supply of high quality food products for the population based upon high rates of growth for agricultural production and balanced development for all elements of our country's agroindustrial complex. In achieving the established goal, an important role will be played by the sugar beet complex of the Ukrainian SSR, which accounts for approximately 55 percent of the all-union volume of granulated sugar production.

In conformity with the decisions handed down during the 26th Congress of the Communist Party of the Ukraine, the special purpose all-round scientific-technical "Sakhar" Program was developed and is now being implemented in the Ukraine. The implementation of this program will depend to a considerable degree upon further raising the operational efficiency of our republic's sugar beet complex. The successful implementation requires uniform planning and also proportional and balanced development for those branches engaged in the cultivation, transporting, storage and processing of the sugar beets.

During the period which has elapsed since the March (1965) Plenum of the CPSU Central Committee, large-scale measures have been carried out aimed at developing and improving the raw material and production-technical bases for the sugar beet complex of the Ukrainian SSR. As a result, the republic's sugar beet procurement volume increased by a factor of 1.42 during the 10th Five-Year Plan and the productive capabilities of the granulated sugar plants -- by a factor of 1.62. During this period, 11 large new plants were built in the Ukraine and a number of active enterprises of the branch modernized. Considerable work was also carried out in connection with the introduction into operations of progressive types of machines and equipment and a leading technology for the mechanization and automation of production processes and loading and unloading operations and for regulating the thermal and power establishments of the branch. During this period, 1.44 billion rubles were

invested in the granulated sugar industry of the UkSSR for the purpose of implementing the mentioned measures.

However, notwithstanding the noticeable growth in cropping power, gross yields and state procurements of sugar beets and also the expansion that has taken place in the productive capabilities of the sugar plants, the production volume for the output of this branch has increased only negligibly in our republic. For example, during the 1976-1980 period the average annual production of granulated sugar in the UkSSR was 4.5 million tons (compared to 4.3 million tons during the 1961-1965 period). Meanwhile, the volume of beets processed during this same period increased by more than 13 million tons (see Table). The principal reasons for this status of affairs: a reduction in the sugar content of the beets, a deterioration in their technological qualities and increased sugar losses during the storage, transporting and processing of the beet raw materials. The amount of raw material losses is adversely affected by a low level of concentration of beet sowings on farms in the raw material zones of the sugar plants, by a considerable volume of railroad beet shipments, by shortcomings and neglect in organizational-administrative work within the branch and in the sugar beet production technology and by the failure to devote proper attention to the introduction of leading production experience. As a result of the above, the sugar yield during 1976-1980 decreased from 13.69 to 10.59 percent of the overall bulk of beets and the difference between the digestion of a beet and the sugar yield increased from 4.36 to 5.21 percent. Thus the republic failed to receive a large quantity of products and a decrease took place in the effectiveness of granulated sugar production in the UkSSR.

The decisions handed down during the 26th CPSU Congress and the 26th Congress of the Communist Party of the Ukraine call for the annual production of beets during the 11th Five-Year Plan to be increased to 56-57 million tons and for sugar production to be raised to 6.6-6.8 million tons by 1985*. In addition, the plans call for the production capabilities of the sugar plants in our republic to be expanded (by 85,100 tons of processed beets daily), with approximately 1.07 billion rubles to be made available for this purpose.

During a republic conference-seminar for beet growers and sugar industry workers, held in the city of Kiev on 11-12 February 1982, the 1st secretary of the Central Committee of the Communist Party of the Ukraine V.V. Shcherbitskiy emphasized that the problems concerned with further development of sugar beet production must be solved on an all-round basis, taking into account the latest scientific and engineering achievements. This is considered to be a decisive condition for fulfilling the plans for raising its efficiency. In order to carry out the established tasks, it will be necessary first of all to raise the beet yields and their sugar content and also to improve the preservation and processing of the beet raw materials -- such that the sugar yield will be increased to 37-38 quintals per hectare**.

* See: Materials of the 26th CPSU Congress. Moscow, Politizdat, 1981, p 189.

** See: Materials of the 26th Congress of the Communist Party of the Ukraine. Kiev, Politizdat Ukrainy, 1981, p 30.

Indicators for Production, Procurements and Quality of Beets and Sugar
Output in the Ukrainian SSR

Indicators	Unit of Measurement	Average Annual Indicators for Years				Average for 1976-1980 in % of average for 1961-1965
		1961-1964	1966-1970	1971-1975	1976-1980	
Sugar output	Mill. tons	4.3	5.3	4.8	4.5	104.6
Production capabilities of sugar plants	Thous. tons of beets daily	268.64	321.80	365.28	434.93	161.9
Duration of production cycle	24 hours	148	127	134	129	87.2
Area of sugar beet sowings	Thous. of hectares	1709	1757	1717	1791	104.8
Gross yield of beets	Mill. tons	34.1	46.7	46.0	53.6	157.2
Beet yield	Quint. per hectares	198	267	268	299	151.0
State beet procurements (total)	Mill. tons	32.2	42.9	40.8	45.8	142.2
Ibid -- per hectare of sowing	Quint. per hectares	188	244	238	256	136.2
Impurity content in beets procured	%	5.5	8.1	10.7	14.6	265.5
Sugar content of beets	%	18.05	17.51	16.73	15.8	87.5
Sugar yield	%	13.69	12.85	12.1	10.59	77.4
Difference between sugar content and sugar yield	%	4.36	4.66	4.63	5.21	119.5

Decrees adopted over the past few years by the CPSU Central Committee and the USSR Council of Ministers concerning further intensification of agricultural and particularly beet production, based upon agricultural specialization and concentration, will serve to guarantee the successful implementation of the measures planned by the party for raising the efficiency of sugar beet production in the Ukrainian SSR and they will promote the conversion of this branch over to an industrial basis*. Included among the more important organizational measures expected to bring about improvements in the efficiency of beet production is improved distribution for the beet sowings (from both a macro and micro-region standpoint), that is, the elimination of a dispersion of these sowings and concentrating them nearer to the granulated sugar plants and also optimization of the density level for the beet sowings on some farms -- in conformity with the interests of achieving improvements in the crop rotation plans, efficient use of labor resources and so forth.

As is known, approximately 4,900 kolkhozes and 400 sovkhozes operating under various natural and economic conditions are presently engaged in cultivating beets in the Ukrainian SSR. Naturally, their operations are characterized by different levels of specialization in the production of beets and this is resulting in substantial differences in the yields, sugar content, cropping power and output of sugar per hectare of sowing. Over the past few years, the republic's average sugar yield from beets has been 4.08 tons per hectare on the whole and at 55 percent of the beet growing areas -- from 3.6 to 4 or more tons per hectare, including 13 percent of the beet sowings furnishing more than 4.5 tons of sugar per hectare. At the same time, this indicator is considerably lower in some oblasts than the average for the republic. Thus, in Nikolayev Oblast the sugar yield from beets does not exceed 2.4 tons per hectare on 31.4 percent of the beet sowings. In Zhitomir Oblast, 14.5 percent of the sowings produce less than 3 tons per hectare, in Poltava Oblast -- 15.2 percent of the sowings produce this amount, Kharkov Oblast -- approximately 28 percent, Kirovograd Oblast -- 26 percent and in Sumy Oblast -- approximately 60 percent. Even in Vinnitsa Oblast, which is distinguished by highly efficient sugar beet cultivation operations, the sugar yield from beets in a number of rayons does not exceed 3 tons per hectare.

In the interest of raising the efficiency of beet production in the Ukrainian SSR, the sowings of this crop should gradually be concentrated in regions of highly efficient beet cultivation operations. However the dynamics of changes in the extent of beet sowings, from the standpoint of individual regions of the republic over the past 20 years, reveal that against an overall growth of 30 percent for the UkrSSR, these sowings were expanded in regions of low beet

* See: Measures for further increasing the production and procurements of sugar beets and sugar production in 1976-1980. Decree dated 31 May 1976 of the CPSU Central Committee and the USSR Council of Ministers. (In the book: "Spravochnik partiynogo rabotnika" /Manual for a Party Worker/, Issue 17, Moscow, Politizdat, 1977 pp 207-213); On further development of specialization and concentration in agricultural production based upon inter-farm cooperation and agroindustrial integration. Decree of the CPSU Central Committee dated 28 May 1976. (In the book: "Leninskaya agrarnaya politika KPSS. Sbornik vazhneyshikh dokumentov" /Lenin's CPSU Agrarian Policies. Manual of Most Important Documents/, March 1965 - July 1978. Moscow, Politizdat, 1978, pp 481-494).

cultivation efficiency by 46 percent, in regions with average efficiency -- by 27 percent and in regions characterized by high efficiency -- by 24.3 percent. Hence, territorial changes associated with increasing the proportion of beet sowing areas took place during this period in regions having the least favorable conditions for such cultivation. This could be justified only in the absence, in regions of average or high efficiency, of reserves for expanding the sowings of this crop or for increasing farm specialization in beet production in these regions. An analysis of the materials of the Ukrainian State Institute for the Planning of Sugar Industry Enterprises, the USSR Ministry of the Food Industry and oblast planning organizations testifies to the fact that there are approximately 180,000 hectares in the republic which can be viewed as reserves for the cultivation of beets in regions characterized by average or high production efficiency for this crop.

The problem concerning use of the mentioned reserves may become vital in the near future -- in connection with the need for increasing sugar production throughout the country, including in the Ukrainian SSR. This places on the agenda large-scale tasks associated with improving the distribution and territorial organization of the raw material base for the sugar beet complex, aimed at achieving maximum use of the potential offered by those oblasts and rayons characterized by high beet cultivation efficiency. During the 26th CPSU Congress, emphasis was placed upon the fact that it will be necessary during the 11th Five-Year Plan "to continue the work of improving the structure and distribution of agricultural production by zones and regions of the country and raise the level of agricultural specialization and concentration." These are extremely vital problems with regard to beet production in the Ukrainian SSR. In the interest of concentrating (within rational limits) the beet sowings in oblasts and rayons having more favorable natural-economic conditions for the cultivation of this crop and raising production efficiency in this branch, an inter-zonal distribution of the beet sowings should ideally be carried out. According to data supplied by the All-Union Scientific-Research Institute of Sugar Beets, it will be possible in the near future to plant beets on 1.2 million hectares, or 68.6 percent of the overall sowing area, in the forest-steppe zone of the UkSSR, in the steppe zone (taking into account an expansion of the areas on irrigated land) -- 290,000 hectares or 16.6 percent respectively and in the forest district -- 260,000 hectares or 14.8 percent. In the near future, for the purpose of expanding the sowings and obtaining high yields for this crop, the plans call for the construction of irrigation systems in the steppe regions of our republic. As is known, irrigated beet production, which is being employed extensively in a number of south European countries and also in the U.S.A., has proven its worth from an economic standpoint. Under irrigation conditions, the expenditures for producing beets per unit of sowing area are roughly higher by a factor of 1.5 than those for non-irrigation conditions and the beet harvest is greater by more than a factor of 2. Thus we have a considerable reduction in the production costs for the beet raw materials and, it follows, for the final product. Consequently, when irrigation is employed for beet production operations the savings realized as a result of raised cropping power and beet yields fully compensates not only for the one-time expenses but also for all expenses associated with more complicated tilling and tending of the beet sowings.

The advantages to be gained from concentrating beet sowings in regions having more favorable natural-economic conditions for this crop manifest themselves in the form of raised yields, greater sugar content in the beets, increased sugar output per hectare and certainly more secondary products -- haulm, pulp residue and molasses and so forth. In regions marked by a higher beet production efficiency, the sowing area required for the production of a definite volume of beets and sugar is considerably less than that required for regions, the natural-economic conditions of which are less favorable for the growing of beets. In addition, a large savings is realized in labor and material expenditures for the production of a unit of product for the branch and, in particular, reductions take place in connection with expenses for tilling the soil, cultivating the beets and tending the plantings.

The implementation of measures concerned with the territorial concentration of beet production in regions marked by a high efficiency for such production is associated with increasing the density of beet production operations in the raw material zones of the plants and especially -- on farms which are in close proximity to them. As is known, the average level of density for beet sowings in the UkSSR at the present time is approximately 10.8 percent, in the raw material zones of 40 percent of the plants this indicator does not exceed 12 percent and in the zones of 48 percent of the plants -- it fluctuates from 12 to 16 percent and only in the zones of 12 percent of the plants -- it exceeds 16 percent, whereas the rational level for beet density is 18-22 percent. In addition, approximately 19 percent of the sowings of this crop are located at distances of more than 50 kilometers from the processing plants, 36.7 percent -- 25-50 kilometers and 39.3 percent -- 10-25 kilometers, with only 4.6 percent of them being located within a distance of 10 kilometers. According to data supplied by the Ukrainian Agrarian-Industrial Association of the Sugar Industry for the MPP /Ministry of the Food Industry/ for the UkSSR, the volume of inter-oblast shipments of beets in our republic amounts to 1.5 million tons annually and taking into account the inter-plant shipments -- approximately 5 million tons annually, a direct result of which is growth in the associated transport expenditures and considerable losses in the beet raw materials during the storage and transporting processes.

It bears emphasizing that great reserves for realizing savings in social labor and growth in the efficiency of sugar beet production are to be found in improvements in the distribution of the beet production operations. By gradually locating the beet sowings closer to the sugar plants and raising their concentration on nearby farms, it will become possible to create the conditions required for introducing optimum schedules for harvesting and shipping the beets in conformity with the "field-to-plant" program, which in turn will make it possible to reduce the losses in beet raw materials and the requirements for transport equipment. In the interest of achieving a sound solution for the problem of improving the distribution of beet sowings in the Ukrainian SSR, an experiment should ideally be organized in advance directed towards intensifying farm specialization in the cultivation of this crop in the zones of 3-4 sugar plants. Subsequently, based upon the data obtained, measures should be developed aimed at improving the organization of the raw material zones for the sugar plants and outlining a list of farms the specialization of which in beet production must be gradually intensified. Experience indicates that increased specialization in the cultivation of beets

by farms which operate under more favorable natural-economic conditions for the growing of this crop serves to promote greater economic efficiency in beet production operations, it ensures a considerable economic effect and it exerts a positive influence on production efficiency in other branches of agriculture. However, it bears mentioning that the implementation of this measure in a number of regions throughout the republic requires a substantial increase in the level of mechanization for the production processes involved in beet production operations. Over the past three five-year plans, a great deal has been accomplished with regard to supplying the agricultural enterprises with new equipment, mineral fertilizers and chemical agents for protecting plants. Thus, during the 1965-1980 period, tractor deliveries for agriculture in the Ukrainian SSR increased from 39,500 to 49,500, trucks (excluding specialized types) -- from 11,300 to 37,400, tractor plows -- from 24,000 to 29,800, tractor sowing machines -- from 30,000 to 42,900 and so forth. Based upon a strengthening of the logistical base for agricultural production and mechanization of the production processes in beet production operations throughout the republic, the labor expenditures for the production of 1 quintal of sugar beets at kolkhozes decreased from 2.5 to 1.1 man-hours and at sovkhozes -- from 1.6 to 0.9 man-hours*. As a result, over the past three five-year plans the number of those working in beet production operations decreased (by threefold) and the volume of beet procurements increased (by a factor of 1.4).

Further improvements in the level of concentration of beet production in the Ukrainian SSR will be promoted by implementation of the measures outlined during the 26th party congress and the May (1982) Plenum of the CPSU Central Committee. Thus the plans call mainly for the completion during the 12th Five-Year Plan of the conversion over to an industrial technology for sugar beet cultivation and for satisfying the requirements of the beet growing farms for equipment, transport and loading equipment, mineral fertilizers, highly effective herbicides and chemical agents for protecting plants against pests and diseases.

Reducing the expenditures of manual labor in the cultivation of beets constitutes a great reserve for raising the efficiency of beet production. Upon the condition that the beet growing farms are fully supplied with effective herbicides, chemical agents for protecting the plants, high quality seed and an appropriate complex of machines, a number of regions in the Ukrainian SSR (including in the zone of irrigation) will be able to convert over to cultivating sugar beets with no manual labor expenditures.

Further growth in the efficiency of granulated sugar production will depend to a considerable degree upon the development of scientific-technical progress in the sphere of beet production, which must be carried out by means of improvements in breeding work, the introduction of a system of regionalization for the beet seed, all-round mechanization of the production and transport processes, improvements in the agrotechnical level for the cultivation of this crop, the use of more effective types of fertilizer and plant protective agents, the extensive introduction of flow line and flow line-transshipment methods for harvesting the beets and so forth.

* See: National Economy of the Ukrainian SSR for 1980. Statistical Yearbook. Kiev, Tekhnika, 1981, pp 146, 192.

In order to raise the yields and sugar content of the beets, improvements must be realized in the agricultural practices employed in cultivating this crop. In conformity with the soil-climatic and organizational conditions found in the various zones, efficient crop rotation plans must be introduced and the sowings of this crop following recommended predecessor crop arrangements must be expanded. The achievements of leading farms and state strain testing stations testify to the great reserves which are available for raising the yields and sugar content of beets in the Ukrainian SSR. In recent years the average yield of beets at these strain testing stations has been raised to 42.7 tons per hectare, their sugar content -- to 17.8 percent and the specific sugar yield from a beet grown here has exceeded by a factor of 2.4 the average indicators achieved at kolkhozes and sovkhoses throughout the republic.

An important prerequisite for raising the operational efficiency of the sugar beet complex, in addition to the mentioned organizational measures, is that of regulating the existing system of price formation. The system of accounting prices for the raw materials calls for a levelling off -- regardless of the actual conditions for the efficient management of enterprises -- of their profitability level, which masks in this manner the actual profitability of production operations and adversely affects improvements in the operational efficiency of the branch. Thus in the future there must be procurement prices for the raw materials which reflect the actual expenditures for growing such materials and also regional differences in the production efficiency. This has already been taken into account partially in the establishment of new procurement prices for agricultural products, which is being carried out in conformity with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee.

An analysis of accounting data for the past several years testifies to the fact that the profitability of beet production, from the standpoint of the entire complex of expenditures, is still considerably lower than the profitability for the cultivation of other agricultural crops in many regions of the Ukrainian SSR and throughout the country. The carrying out of appropriate measures aimed at improving the system of price formation in the sphere of beet production is an important condition for further raising its efficiency. An especially complicated task in the sphere of price formation is that of ensuring incentive principles for improving the quality of the beet raw materials, that is, the development of a rational payment system for the beets -- not only in terms of quantity but also based upon their technological qualities (particularly in terms of their sugar content). It bears mentioning that the decree of the USSR Council of Ministers entitled "Measures for Stimulating Improvements in the Quality of the Sugar Beets" (1979) called for the completion in 1984 of the gradual conversion over to paying for the beets based upon their sugar content. Such a system has already been introduced at a number of granulated sugar plants in our republic. However, improvements in the sugar content level of beets through the introduction of measures in the sphere of plant breeding and seed production must not adversely affect the yields for this crop. Consideration must be given to the fact that ideally an optimum combination of beet yields and sugar content should be achieved, one which will guarantee the greatest yield of sugar per unit of sowing area and with relatively low labor and resource expenditures. Thus, in the interest of encouraging growth in the sugar content of the beets, without infringing

upon high yields, the payments for the beets should be made on the basis of sugar content while also taking into account the yields for this crop. This will promote an increase in the sugar output per unit of sowing area.

In order to raise the efficiency of beet and sugar production, extreme importance is attached to the creation of agroindustrial complexes, which appear as organizational combinations of farms engaged in the production of raw materials, enterprises which process them and all service and auxiliary production operations. The work of these agroindustrial complexes is predicated upon combining the centralized coordination of their production functions with the economic independence and initiative of subunits included in their structure and on a cost accounting basis. The creation of such complexes must raise the organizational-economic level of sugar beet production. A most efficient combination of the interests of industrial and agricultural enterprises serves to ensure complete support for the granulated sugar plants in the form of beet raw materials and the complete use of such materials. In accordance with the conditions for this progressive form for organizing sugar beet production operations, the observance of the optimum schedules for carrying out all of the agricultural operations associated with the cultivation of beets will be guaranteed.

An important problem in the sphere of organizing production operations, one which is dependent upon adjusting relationships between the beet and sugar production operations, is that of optimizing the schedules for harvesting and shipping the beets to the plants from the standpoint of national economic interests and not on the basis of advantages for agriculture or industry. In the interest of disseminating the Yampol initiative on an extensive scale at other enterprises of the branch, standard contractual conditions governing the schedules for accepting the beet raw materials should be developed and introduced into operations. Based upon material stimuli, these schedules could ensure a maximum sugar yield from each year's beet crop. At the present time, 22 basic regions and 23 granulated sugar plants have been singled out for extensive development in keeping with the example set by the Yampol workers and all-round collaboration between the beet growers and sugar workers. In addition, more than 5,000 collective agreements have been concluded between the plants, kolkhozes, sovkhozes and motor transport enterprises. Such a system of relationships, which is being built on the basis of an optimum combination of the interests of the beet production farms and processing enterprises, will create conditions for organized harvesting and rhythmic deliveries of the beet raw materials for the processing enterprises and it will ensure a reduction in the losses in such materials, a maximum sugar yield and high profits for these economic organizations.

In order to raise the efficiency of granulated sugar production, importance is also attached to streamlining its inter-branch relationships. First of all, the deliveries of highly effective beet raw materials to the sugar plants must be ensured. The solution for this task raises the need for improving plant breeding, seed production and regionalization in the cultivation of beet seed and this must promote an increase in the sugar content and considerable improvements in the preservation of the beet raw materials during storage. In the process, a more efficient combination of the interests of the industrial and agricultural enterprises also assumes comprehensive use of the beet raw

materials, based upon the development of mixed production operations -- particularly through organizing the production of mixed feeds, dry pulp residue and so forth.

In connection with raising the efficiency of granulated sugar production, special importance is attached to those problems concerned with improving labor organization in the branch and raising its productivity. In the case of seasonal production and in the interest of eliminating personnel turnover, extreme importance is attached to smoothing out the manpower requirements during the production and inter-seasonal periods. The data of scientific research organizations and foreign industry allow us to assume that in the future labor intensiveness in the cultivation of beets and sugar production will be lowered considerably, leading quite probably to increased labor productivity throughout the entire sugar beet complex. This requires a substantial increase in production concentration in the branch and also the implementation of all-round mechanization and automation of production processes in beet and sugar production operations.

One of the most important prerequisites for further growth in production efficiency in the sugar beet complex is that of carrying out improvements in current and long-range planning. In the interest of improving the distribution of the granulated sugar industry and also its territorial organization, taking into account the natural-economic peculiarities associated with the development of beet production in each individual region, the capabilities of sugar plants which do not hold out much promise and which are located in zones not considered to be very effective for beet production should ideally be stabilized and the beet sowings in these zones gradually reduced. At the same time, a need exists for increasing the capabilities of the more promising sugar plants and, it follows, the beet sowings in their raw material zones. This branch should also be converted over from proportional development in the various regions to an intensification in the rates of growth for the raw material resources and production capabilities of enterprises located in regions considered to be most promising from the standpoint of cultivation conditions for the sugar beets. Such a method for improving the planning for the development and distribution of granulated sugar production operations should ideally be approved based upon one or several agrarian-industrial associations, after which, having revealed its positive and negative aspects and having summarized the results of the experiment, it should be introduced into production practice on a scale for the entire branch.

The decisions handed down during the 26th CPSU Congress call for "the implementation of a system of measures for improving planning, economic stimulation for the production and procurements of agricultural products, a strengthening of cost accounting, lowering the production costs for products, raising the profitability of agricultural production and improving the financial-economic status of the farms."

At the present time, the planning and economic organs are carrying out the planning for sugar beet production from the standpoint of economic regions and oblasts, which are not uniform however -- from the standpoint of natural and economic conditions for the development of beet production -- by territorial units: they differ from one another in terms of yields, sugar content of the

beets cultivated on the territories, technological qualities of the beets and so forth. Thus, in addition to an administrative-territorial breakdown for the plan, its indicators should also be subdivided according to microzones having roughly the same efficiency in beet cultivation. This will make it possible to take into account more completely the natural features of individual parts of oblasts and to find additional reserves for raising production efficiency within the branch.

Improvements in planning in the sugar beet complex must also be carried out by correcting the plan prior to the commencement of the period for producing the final product. Improved quantitative and qualitative indicators for the beet yields subject to processing at each industrial enterprise make it possible to raise the validity of the operational production plans of the sugar plants. This is promoted by the achieved level of development in computer equipment and by the introduction of economic-mathematical methods for planning. Under these conditions it is possible to correct the production plans of enterprises and associations on a centralized basis and within an extremely short period of time. In turn, this will make it possible to create the prerequisites for the extensive introduction of cost accounting procedures, to increase the role played by economic stimulation and to raise production efficiency.

One important task associated with the further development of the sugar beet complex of the Ukrainian SSR and raising its production efficiency is that of reorganizing the organizational structure for administering its activities. At the present time, the agroindustrial associations include all of the branch's enterprises located on the territory of a given oblast or nearby rayons adjoining the oblasts. Such an organizational structure for administering this complex and the great diversity of natural-economic conditions for the production of beets and sugar make it impossible to control sugar beet production in an efficient manner. Thus the enterprises must be included in the structure of the agroindustrial associations taking into account not only their administrative-territorial nature but also the level of production efficiency. Within the framework of production associations formed in this manner, administration can be organized by groups of enterprises located in regions having roughly the same natural-economic conditions for beet production. This will make it possible to take into account more completely these conditions and to make better use of the available production reserves.

The planned implementation of the measures called for by us in this article for improving production organization and planning within our republic's sugar beet complex and also for introducing the leading achievements of scientific-technical progress into operational practice in this sphere will promote the creation of favorable prerequisites for raising the efficiency of sugar beet production.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, PROBLEMS IN MECHANIZING COTTON HARVEST IN TURKMENISTAN

Cotton Harvest Problems Described

Moscow PRAVDA in Russian 7 Jul 83 p 2

/Article by A. Grachev and N. Morozov, Turkmen SSR: "Following the Combine -- Manual Work"/

/Text/ Green rows of cotton appear as shimmering waves in the burning hot Karakum mirage. The southern sun generously touches the delicate plants and the farmer is pleased: the weather will provide a good harvest. The most valuable varieties of cotton are ripening under the Turkmen sky and the republic occupies a leading place in the country based upon the gross yield obtained from these varieties. But each autumn the economists review their calculations and note with alarm: the raw cotton is becoming more expensive. Over the past 3 years alone, for example, the production cost for each quintal at kolkhozes throughout the republic increased by 10 rubles. One half of the expenses were consumed for harvesting the crop. And the gathering up of the cotton following machine harvesting work is especially costly to the farms.

We traveled over the fields of three of the republic's oblasts and it was only rarely that we did not encounter the slogan-reminder directed at the cotton growers: "Strict observance of the agricultural practices -- a guarantee for a good harvest." It is being repeated quite often on the pages of the local press and it is resounding from various tribunes. It is a necessary appeal. Cotton growing is a labor-intensive branch of agriculture: dozens of operations must be carried out here from one harvest to another. And each one of them within a definite amount of time. The Institute of Farming of the Ministry of Agriculture for the Turkmen SSR has provided the agronomists with zonal farming systems and recommendations by scientists which are based upon many years of experience. They tend to indicate that if the slogan regarding observance of the agricultural practices was to be followed in all areas, the plantations would provide the republic with an average of 40 quintals of raw cotton per hectare. At the present time, the average yield is on the order of 22-23 quintals.

Such stability is only mediocre. The rural areas are continuing to receive greater amounts of equipment and fertilizer and tremendous resources are being invested in land reclamation. During the past five-year plan alone, for example, 906 million rubles were expended for land improvement purposes in the Turkmen SSR. And the expected return never materialized. What is the problem?

"Shortcomings in the administration of agricultural production are taking their toll" stated the chief of the Department for Technical-Economic Studies of the Institute of Farming Omar Redzhepov, "On the one hand a cotton grower is oriented towards observing in a strict manner the schedules established for carrying out certain agricultural measures out on the fields and on the other -- he quite often violates these schedules. For example, let us take the crop harvesting work. The gathering up of the "last boll" often continues almost up to the middle of December. But indeed science and experience call not only for plowing but also all leaching irrigation work to be completed by this time! We are in dire need of each kilogram of raw cotton. This applies in particular to the fine-fibered varieties. But thought must necessarily be given to the cost involved in achieving increases in the cotton growing republics."

In view of the present potential of the harvesting equipment, it is still impossible to proceed in the absence of manual labor. Thus each year the local party and soviet organs hand down a decision calling upon pupils, students and workers from certain enterprises, institutes and organizations to join in the work of harvesting the raw cotton. But is the large-scale mobilization of personnel out on the autumn fields always justified? In the Turkmen SSR, for example, in carrying out this measure the party committees and the executive committees of the soviets of people's deputies rarely ask the question: "How many personnel are needed in the rural areas?" More often than not they operate according to the principle: "As many as possible." And the result of such practice: the yields remain fixed and the number of personnel mobilized for participating in the harvest work increases. Ten years ago approximately 68,000 assistants aided the kolkhoz members in carrying out the harvest work and today -- the number has increased twofold. Moreover, at times they are sent to areas where there is little need for their services.

The farms must pay for leasing the transport vehicles and for feeding these assistants and so forth. And what is the return from all this? Towards the end of the harvest campaign, each such assistant supplies the raw cotton mill with an average of 5 kilograms -- a hinged baffle of raw cotton, of low quality as a rule.

There is still another aspect to this problem: as the flow of assistants from the city increases, a decrease takes place in the labor activity of the rural workers themselves. Some use the time for carrying out work on their private plots, while others are psychologically motivated. It is offensive to some: they bend over each bush and nourish it throughout the summer and then it is harvested in a slipshod manner -- merely to fill up the hinged baffle. It is a motive and yet a fact remains a fact: there were years when, in Ashkhabad and Mary Oblasts, at the peak of the white harvest campaign -- in October -- no more than 68 percent of the able-bodied kolkhoz members were working out on the plantations.

But it would be proper to hold the personnel on the plantations during the "peak" period of October and right up until the November rainfall and cold snaps. But there are times when they still have not left by the middle of December! Moreover, on those farms where the plan and obligations were long ago fulfilled, the fields can and must be prepared for the next crop.

Allow us to refer to information received from the Institute of Farming of the republic's Ministry of Agriculture. The scientists maintain that if a field is not plowed in November or December, a shortfall of 3-5 quintals per hectare will occur the following autumn. A similar decrease in yield occurs when the schedules for applying fertilizer are postponed. A minimum of 5 quintals is lost when leaching irrigations are not carried out prior to the onset of cold weather. And sometimes the figure is even greater. The republic loses roughly 100,000-150,000 tons of cotton alone from the existence of saline patches out on the plantations! And indeed a farmer is familiar with the technology employed for combating such patches: initially they must be leached and thereafter, 15-20 days later, the entire plantation. But inasmuch as a farm commences its irrigation work only in February, where does it find the time? And the land will hardly succeed in drying out if a campaign is not waged against the bald patches.

They understand all of this. And still the personnel remain on the plantations right up until the snow begins falling. The explanation given is that they are doing so in behalf of the plan.

For 2 years now, the cotton growers in the Turkmen SSR have lagged behind in carrying out their tasks for raw cotton procurements. One can understand the mood of the leaders when it is necessary to raise the plan by one and a half to two percent. A maximum amount of effort must be applied today. But what about tomorrow?

"I believe that we must follow more attentively the opinion expressed by the agricultural specialists and dictate to them to a lesser degree the schedules for carrying out the various operations for the sake of a satisfactory summary" stated the secretary of the Chardzhou Oblast Party Committee A. Babkin, "why retain people out on the fields where the work has been completed? Rather, timely preparations should be made for the new crop."

The same point of view is held by many with whom we conversed -- party and soviet workers and farm leaders. Following the example set by the best farms, maximum use should be made of the cotton harvesting equipment and then the problem concerning the last boll will disappear. Indeed the Bol'shevik Kolkhoz in Ilyalinskiy Rayon and the Teze Yel Kolkhoz in Bayramaliyskiy Rayon are capable of carrying out their harvest work using their own resources. Many farms are making their fields available for plowing by the end of October. However, for the republic as a whole the workload per combine is not very high: they are not removing one half of the crop. The output per machine is not increasing but rather it is decreasing. For example, in Kaakhkinskiy and Tedzhenskiy Rayons in Ashkhabad Oblast each combine harvests only 29-36 tons during a season: as a matter of fact, a mechanism is being replaced by the hands of only two experienced pickers. In 1981, 70 percent of the fine fiber cotton crop was harvested manually in this oblast. Hence the increase in the number of those attracted to assisting in the cotton harvest.

The republic is being supplied with large amounts of equipment. But it is being distributed in an irregular manner. This applies to the oblasts, rayons and farms. For example, the 40 Let TSSR Kolkhoz in Ashkhabadskiy Rayon has 62 tractors operating on 1,000 hectares of arable land and at the Mir Kolkhoz in this same rayon -- 21.

Equipment which underwent repairs at enterprises of Goskomsel'khovtekhnikha does not perform in a reliable manner out on the fields. Quite often, more than 2,000 combines are inactive at the height of the harvest campaign. In many rayons in Mary Oblast, for example, from 35 to 45 percent of the machines were not used during the past harvest season. Willingly or unwillingly the cry is heard: "Everything in behalf of the cotton!"

Other factors could also be cited which are prompting the republic's leaders into mobilizing thousands of city and settlement workers into assisting in carrying out the cotton harvest. This includes the slow construction of children's nurseries and kindergartens in the rural areas, the limited use of brigade contracts (last year, for example, only 4 percent of the cotton growing brigades operated on the basis of contracts in the Turkmen SSR) and the lag that has developed in the search for more rapid ripening varieties of cotton and more effective defoliants. Imperfections in the cotton growing equipment are taking their toll here. All of this is adversely affecting the economic indicators. Thus, during the years of the past five-year plan the net income of the kolkhozes decreased by one fourth and profitability -- by almost 10 percent. Capital output decreased by 12 percent.

Certainly, there are other objective factors at work here: an increase in investments in land reclamation, the construction of complex installations, increase in wages for kolkhoz members and so forth. However, these expenses are necessary and they can be tolerated if they are compensated by an increase in yields. In the case of expenditures associated with the use of thousands of city-dwellers -- these are not always economically justified expenses. With skilful organization of labor and complete utilization of the labor resources and equipment, the Turkmen cotton growers are capable of supplying the homeland with a generous harvest and with minimal assistance.

The summer is coming to an end and the plantations appear to be covered with a white foam. This is an exciting period for a cotton grower -- the harvest period. The initial cotton wagon trains decorated with red calico are moving from the fields to the procurement points. Songs will be sung. Such holidays have become a tradition.

The farmers consider it to be a fine tradition.

Some time will pass and then other convoys will return to the rural areas carrying assistants from the city.

It would be better to proceed using one's own resources. And towards this end the party committees and the councils of agroindustrial associations must open wide the road leading to a new type of economic thought aimed at promoting initiative and socialist enterprise, raising responsibility and employing a creative search for the means required for achieving the best final national

economic results with the least expenditures. Such is the task that was assigned during the June (1983) Plenum of the CPSU Central Committee.

Elimination of Shortcomings Outlined

Moscow PRAVDA in Russian 6 Sep 83 p 3

[Article: "Reliance Upon Machines"]

[Text] "Following the Combine -- Manual Work," such was the title of an article published in PRAVDA on 7 July 1983, an article which commented upon the shortcomings noted in the organization of the raw cotton harvest in the Turkmen SSR. A reply to this article has been received from the deputy chairman of the TSSR Council of Ministers G. Mishchenko. He reports that the article was examined at meetings of the Presidium of the Council of Ministers for the Turkmen SSR, the Board of Directors for the Ministry of Agriculture of the Turkmen SSR, Goskomsel'khoztekhnika for the Turkmen SSR and the presidium of oblast agroindustrial associations. Measures have been outlined for making maximum use of the labor resources of kolkhozes and sovkhozes, improving the quality of repair operations, raising the operational efficiency of the cotton harvesting equipment, creating reliable social-domestic conditions for those workers engaged in harvesting the crop. The plans call for fulfillment of the plan and socialist obligations for selling raw cotton to the state prior to 1 November. The machine harvest volume is to be increased to 800,000 tons, with the equipment being used in the form of 800 harvesting-transport complexes. Measures have been undertaken to staff the cotton harvesting machines with two shifts of driver-mechanics.

The soviet and agricultural organs are mobilizing the rural population for harvesting the crop. The plans call for an expansion in the network of seasonal childrens' nurseries and kindergartens, improvements in domestic services for the cotton growers and hot food to be served in the field.

The implementation of the measures planned will make it possible to reduce the requirements for additional manpower.

The Editorial Board has also received a reply signed by the 1st secretary of the Mary Oblast Committee of the Communist Party of Turkmenistan A. Akgayev. He reports that the bureau of the oblast party committee has handed down a strict warning to the chairman of oblgoskomsel'khoztekhnika K. Ovezov and to the chief of the oblast agricultural administration K. Atayev for failing to undertake the proper measures for ensuring the timely and high quality repair of the cotton harvesting equipment and for unsatisfactory servicing of that equipment. The plans for this current harvest campaign call for machines to harvest no less than 63 percent of all of the raw cotton grown, including 30 percent -- the more valuable fine-fiber varieties. Roughly 8,800 tractor-machine operators have undergone training. This is 1,400 more men than last year. Two hundred and twenty three more cotton harvesting machines have been prepared. The quality of the repair work being carried out on these machines has been improved. All of the above factors must serve to promote the organized and timely harvesting of the raw cotton crop.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

JUDGING OF SUGAR BEET QUALITY BY SUGAR CONTENT

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 82
pp 12-13

[Article by F. Vrachevskiy, state inspector for procurements of grain and technical crops of Ministry of Procurements for the Ukrainian SSR: "The Chief Indicator -- Sugar Content"]

[Text] Sugar beet production, which is called upon to meet the increasing requirements of the Soviet people for food products and industry for raw materials, occupies an important place with regard to solving the Food Program, approved during the May (1982) Plenum of the CPSU Central Committee. The plans call for the average annual harvest of this crop in the country to be raised to 104-103 million tons during the 12th Five-Year Plan and for the per capita consumption of sugar -- to not less than 45.5 kilograms.

During this period, the conversion over to an industrial technology for sugar beet cultivation will be completed for the most part and the requirements of the beet growing farms for the necessary equipment, transport and loading machines, mineral fertilizers, herbicides and chemical agents for protecting plants against pests and diseases will be satisfied.

During the 11th Five-Year Plan, the Ukraine is providing 58 percent of the all-union procurements of sugar beets and thus the party, soviet and agricultural organs of the republic are devoting a great amount of attention to increasing the production volumes and the sales of this valuable crop to the state.

Sugar beets and the products obtained from their processing constitute a great source for augmenting the feed balance for public animal husbandry. At the same time, this crop increases to a substantial degree the monetary income of the kolkhozes and sovkhoses and it raises the wages of the beet growers and all farm workers.

An increasing number of Ukrainian farms are converting over to employing an industrial technology in cultivating their beets. This year, one third of the area sown in sugar beets will be cultivated using this new progressive method.

Many kolkhozes and sovkhoses and mechanized teams, as a result of the introduction of this advanced agricultural practice and regardless of the

caprices of the weather, are annually achieving high indicators in their beet yields. For example, in 1981 the Kolkhoz imeni Lenin in Yampolskiy Rayon in Vinnitsa Oblast obtained 655 quintals of this valuable crop from each hectare of sowing, the Pravda Kolkhoz in Chernobayevskiy Rayon in Cherkassy Oblast -- 453 and the Kolkhozes imeni Voroshilov in Mironovskiy Rayon in Kiev Oblast and imeni Engels in Reshetilovskiy Rayon in Poltava Oblast -- 400 quintals per hectare.

Even higher results were achieved by individual mechanized teams in the cultivation of sugar beets having a raised sugar content. This testifies to the availability of unused reserves and to the potential offered by this crop. Leading beet cultivation mechanized teams have already surpassed the sugar production goal of 80 or more quintals per hectare.

At the same time, during 1981 many of the republic's kolkhozes and sovkhoses obtained low beet yields, they did not fulfill their contractual obligations and the roots shipped to the sugar plants and beet receiving points by these farms were characterized by a low sugar content.

It bears mentioning that a reduction has taken place in recent years throughout the republic in the sugar content of the beet roots. During the 9th Five-Year Plan it was lower by 0.93 percent than during the 8th and during the 10th Five-Year Plan it was 0.99 percent lower than during the 9th. It was not until 1981 that the sugar content rose by 0.07 percent compared to the average annual level for the 1976-1980 period. The output of sugar per hectare of sowing is decreasing.

The reduction in yields and the drop in sugar content are partially explained by unfavorable weather conditions which affect the sugar content of this crop and also by insufficient material interest being displayed by the beet growing farms in obtaining roots having a high sugar content.

The system which existed earlier for paying the farms for beets delivered, depending upon the sugar content of the roots, did not stimulate sufficient interest in the farms in raising the sugar content of the roots. The payment system in use at the present time has corrected this situation.

Individual kolkhozes and sovkhoses have often tolerated violations of the basic agrotechnical requirements for the cultivation of sugar beets and this has led to a thinning out of the sowings, a disruption in the intensive growth and development of the plants and to slow accumulation of sugar in the roots.

As a rule, the caprices of the weather exerted the greatest adverse effect on the size of the crop and on the sugar content of the roots on those farms where such violations were allowed to occur.

The data of scientific-research institutes and the experience of leading beet growers reveal that only by strictly observing the entire complex of agrotechnical measures will it be possible to obtain high sugar beet yields with a raised sugar content in the roots. First of all, the sugar beet plantations must be located following the best predecessor crop arrangements and on areas that were plowed early in the fall and were well supplied with organic and

mineral fertilizers in the required ratios. The sowing should be carried out using seed of large fractions with a high economic suitability, an optimum density should be formed within not more than 8-10 days, the required number of plants should be sown per hectare and the crops should be tended in a timely and thorough manner throughout the entire growing season depending upon the cultivation zone.

In order to reduce losses and mechanical damage to the roots during the harvest work, the sowings should be loosened to a depth of 12-14 centimeters, no pause should be allowed to take place between the digging up and shipping of the beets, the schedules for harvesting and shipping the roots should be followed in a strict manner and all losses during the harvesting, loading and shipping of the crop should be eliminated.

A reduction in the sugar content of the beets is associated to a large degree with souring of the roots. During 2-3 days of sunny weather, a mass of beet roots decreases by 10-12 percent, as a result of which the farms sustain considerable losses. Thus strict control must be exercised over the harvesting and shipping of the sugar beets so as to ensure that all of the beets dug up on each farm are immediately shipped to the beet receiving points and sugar plants. The party and government are displaying concern for improving planning and economic stimulation for the production and procurements of agricultural products, including sugar beets. The kolkhozes, sovkhozes and other agricultural enterprises are being paid a bonus in the amount of 50 percent of the purchase prices for the sale of agricultural products to the state over and above the average level achieved during the 10th Five-Year Plan.

For the sale of sugar beets to the state, the kolkhozes, sovkhozes and other agricultural enterprises and organizations are paid a bonus added on to the purchase price for each percentage of sugar content in excess of the basic amount, at the rate of 4 rubles per ton. Similarly, a deduction is applied to the purchase price for each percent that the sugar content is lower than the basic figure, at the rate of 2 rubles per ton.

Commencing in 1981, all of the sugar plants accepted and paid for their sugar beets based upon the sugar content. Towards this end, all of the beet receiving points were equipped with ULS-1 lines for determining the sugar content. However, at a number of plants these lines were serviced by poorly trained specialists and this led to inaccuracies in their operation. Thus, in the 2d Brigade at the Vitchizna Kolkhoz in Yarmolinetskiy Rayon in Khmel'nitskiy Oblast, a batch of beets was declared to have a sugar content of 14.76 percent and yet a second analysis of the sugar content revealed a figure of 16.13 percent. The difference amounted to 1.37 percent. Great losses could occur at this farm. Nor is this a singular incident. A maximum amount of attention must be given to training skilled specialists who are capable of accurately determining the sugar content of beets.

The busy harvest season is coming to a close in the republic. Everything is being done at the present time to ensure fulfillment of the production plans and the sale of high quality sugar beets to the state. This will constitute a real contribution towards fulfilling the Food Program this year.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

MORE ATTENTION REQUIRED FOR PRODUCTION, PRESERVATION OF SUGAR BEETS

Moscow SAKHARNAYA PROMYSHLENNOST' in Russian No 5, May 83 pp 22-26

/Article: "Greater Attention to Problems Concerned With the Production and Preservation of Raw Materials/

/Text/ In the Basic Directions for the Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990, approved during the 26th CPSU Congress, a great amount of attention was devoted to developing the agroindustrial complex, in the interest of ensuring reliable support for the population in the form of food goods and industry in the form of agricultural raw materials. This document contained the statement: "In agriculture, every attempt will be made to achieve dynamic development and raise the efficiency of all branches and also to increase the production and raise the quality of products. The program aimed at maximum intensification of agricultural production will be continued."

These instructions are of great importance with regard to further development of beet production operations and the sugar industry.

"An important aspect of our plans" stated the general secretary of the CC CPSU Conrade Yu.V. Andropov in a speech delivered before the November (1982) Plenum of the CC CPSU, "concerns measures associated with implementation of the Food Program."

A great amount of attention is devoted in the Food Program to increasing the production of sugar beets and raising their quality and the output of sugar.

For the third year of the 11th Five-Year Plan, the country's sugar workers are confronted by honorable and responsible tasks -- during the second half of this current year, to produce 3 percent more granulated sugar than was produced during the same period in 1982.

The production capabilities of industry amount to 820,000 tons of processed beets daily. The sugar plants can process the planned amount of beets from the 1983 harvest with high technical-economic indicators during a period of 115 days. At the present time, the branch's beet receiving points can accept up to 3 million tons of beets daily from the beet growing farms.

In recent years, the country's beet growing operations have undergone technical re-equipping. The beet growing farms have been supplied with more improved

types of agricultural machines. Increases have taken place in the amounts of mineral fertilizer being made available for beets and in the chemical agents for protecting plants against pests and diseases. In addition, greater quantities of herbicides are being provided for combating weeds on the beet plantations.

The measures carried out aimed at intensifying beet production operations are creating the prerequisites required for introducing an industrial technology into operations over large areas. This technology is making it possible, with a considerable reduction in expenditures of manual labor, to obtain high sugar beet yields.

Many workers at leading kolkhozes and sovkhozes, by making efficient use of available opportunities, achieved considerable successes in 1982 in the production of sugar beets. Some beet growing rayons obtained 300-350 quintals or more of the root crops per hectare. The sugar beet procurement plans were overfulfilled by the farms in Stavropol Kray (121 percent), Ulyanovsk Oblast (110 percent), Krasnodar Kray (100.1 percent), Lithuanian SSR (101 percent), Armenian SSR (130 percent) and the Georgian SSR (105 percent).

However the beet procurement plan for the country as a whole was not fulfilled. Many beet growing farms in the RSFSR, Ukrainian SSR and the Moldavian SSR are still in great debt to the state. Over the past few years, a considerable number of kolkhozes and sovkhozes in these union republics have been obtaining low sugar beet yields and have not been fulfilling their plans for selling this important technical crop. Such a situation is caused not only by unfavorable weather conditions, but also and mainly by non-fulfillment of the technological requirements associated with the cultivation of this technical crop and by great losses in the raw materials, especially during the harvest period.

Thus the beet yield on farms in Orel Oblast in 1981 amounted to 74 quintals per hectare and in 1982 89 quintals, in Lipetsk Oblast the figures were 76 and 98 quintals per hectare respectively and in Gorkiy Oblast -- 28 and 71 quintals per hectare. The list of oblasts having low yields for this crop could be expanded considerably. The status of affairs in beet production continues to be especially unsatisfactory in the Kirghiz and Kazakh SSR's. The majority of the beet growing farms in the mentioned union republics do not have developed beet production crop rotation plans. Sugar beets have been cultivated continuously over a period of many years on the same tracts of land. Very little work is being carried out in connection with improving the reclamative status of lands, rebuilding irrigation systems or levelling off the fields. All of this adversely affects the beet production work. Thus the sugar content of beets accepted in the Kirghiz SSR in 1982 was 10.6 percent and in the Kazakh SSR -- 12.4 percent. As a result of violations of the agricultural practices employed in sugar beet cultivation, the beets are sustaining increased damage caused by rot, leaf scorch and other diseases and pests. The agricultural workers and sugar workers in Kazakhstan and Kirghizia must direct their efforts towards eliminating the substantial shortcomings being noted in beet production and restoring its former fame. A very important role will be played in this regard by the newly organized agroindustrial complexes.

It is known that the yield and sugar content of beets are adversely affected by poor plant density following thinning out operations (it has decreased sharply in recent years). Compared to the planting density recommended by scientific institutes of 95,000-100,000 sugar beet plants per hectare of sowing, the average density for the country on 10 September 1982 was only 74,000, in the RSFSR -- 67,000, including on the average for Kursk Oblast -- 65,000, Tambov Oblast -- 64,000, Belgorod Oblast -- 63,000, Lipetsk Oblast -- 60,000, Orel Oblast -- 66,000, Bryansk Oblast -- 58,000 and the Altay Kray -- 56,000 plants per hectare. The elimination of this substantial shortcoming will make it possible to raise sharply the sugar beet yields and sugar content.

The shortfall in yields and reductions in the quality of the raw materials are being influenced to a considerable degree by imperfections in the harvest equipment, especially the six-row complexes, the working organs of which are causing extreme damage to the root crops. According to data obtained during inspections, large quantities of root crops are remaining out on the fields of many beet growing farms following beet harvesting operations by combines, the digging up and collection of which are not being carried out on a number of farms.

Over a period of many years, the beet growing farms and sugar industry have sustained great losses caused by the untimely shipping of the root crops from the fields to the beet receiving points. Millions of tons of raw materials are allowed to lie for several days out on the fields, in small uncovered piles, where the beets tend to wilt and spoil. Thus on 27 September 1982, 5,041,000 tons of unshipped beets (although dug up) remained out on the fields of beet growing farms in the RSFSR. This represented 54 percent of the quantity dug up, including 149,000 tons or 83 percent in Ryazan Oblast, 84,000 tons or 70 percent in Tula Oblast, 568,000 tons or 58 percent in Voronezh Oblast, 483,000-563,000 tons or 62-67 percent in Kursk, Lipetsk and Tambov Oblasts and 306,000-436,000 or 72-73 percent in the Tatar and Bashkir ASSR's. Roughly the same situation is being observed in other union republics.

A need has developed for examining the problem of creating special motor transport columns at the sugar plants for carrying out sugar beet deliveries, such that following completion of the beet procurement work the motor vehicles can be used for transporting defecate and other fertilizers to the beet production fields.

At the present time, with work unfolding in connection with the cultivation of the sugar beets and the foundation being established for the sugar beet yields and quality, the workers attached to the sugar plants and industrial associations must, jointly with workers attached to the oblast (kray) and rayon agroindustrial associations, eliminate the possibility of a repetition of the mistakes and shortcomings observed in past years, ensure the sowing and tending of the crops on a high agrotechnical level and prevent sparse densities for the sugar beet plants on the beet fields.

Important tasks confronting the country's beet growers and sugar workers this year: fulfillment of the sugar beet procurement plan by each sugar plant and a considerable increase in the production of sugar per hectare of beet field.

In order to increase the production of sugar beets and improve their quality as well as the material interest of kolkhozes and sovkhozes, commencing with the 1983 harvest the procurement prices for sugar beets will be raised from 35.5 rubles per ton on the average for the USSR to 46 rubles or by 30 percent, including an increase of 46 percent in the prices for the RSFSR and 21 percent for the Ukrainian SSR. Commencing in 1982, a conversion was carried out over to the delivery (acceptance) and payment for beets depending upon their sugar content, with an additional payment being made in the amount of 4 rubles per ton of beets for each percent that the sugar content is higher than the basic figure and a deduction in the amount of 2 rubles per ton of sugar beets being made for each percent that the sugar content is lower than the basic figure. The amount of pulp residue being issued to beet suppliers for beets sold is being increased from 50 to 60 kilograms per quintal of beets. In addition, a new system has been introduced for issuing bonuses to workers and specialists attached to kolkhozes (inter-rayon enterprises), sovkhozes and other state agricultural enterprises, for fulfilling the plan and increasing the sugar beet sales volume compared to the average annual sales volume (procurements) achieved over the preceding 5 years, depending upon the beet sugar content and also to specialists attached to rayon (inter-rayon) agricultural administrations, rayon executive committees (rayon kolkhoz councils in the Moldavian SSR) and rayon (inter-rayon) plant protection stations for fulfilling and over-fulfilling the sugar beet sales plan for a rayon on the whole using the resources of the sugar plants.

Commencing 1 July 1983, GOST 17421-72 was replaced by the new GOST 17421-82 entitled "Sugar Beets for Industrial Processing. Procurement Requirements. Technical Conditions." The effective period for this new GOST /state standard/ will be up until 1988.

The sugar plant workers must urgently and on an extensive scale acquaint the beet growers with the new procurement prices for sugar beets, established for their farms, with the new system for awarding bonuses to leading workers and specialists at beet growing farms and to workers attached to rayon agricultural administrations and they must organize a study of the new GOST by workers assigned to the beet receiving points.

A great amount of work must be carried out by the sugar industry workers in connection with preparing the enterprises for receiving, storing and processing the raw materials of this year's harvest.

It bears mentioning that last year, as a result of crude violations in the technology for accepting and storing the beets and also failure to observe the priority schedules for delivering them for processing, a number of sugar plants sustained great losses in raw materials. Thus, at sugar plants in the Russian Federation, such losses surpassed the norm to a considerable degree and amounted to an average of 5.26 percent of the total amount of beets purchased, while at the same time the losses at enterprises in the Ukrainian SSR amounted to an average of 3.64 percent.

The sugar industry enterprises in the Ukrainian SSR could have had average losses on the order of 3 percent if poor organization in the acceptance and storage of beets had not prevailed at individual sugar plants. Thus the losses at the Pervukhinskiy Sugar Plant amounted to 8.62 percent of the total

amount of beets purchased, Kremenetskiy -- 7.61, Pervomayskiy of the Odessa Association -- 6.48 and Borshchev Sugar Plant -- 6.66 percent. The losses at the Spitak Sugar Plant in the Armenian SSR amounted to 9.6 percent.

One very important measure for ensuring preservation of the beets and lowering losses in beet bulk and sugar during storage is that of increasing the capabilities for storing beets with forced ventilation, through the construction for this purpose of mechanized storehouses and hard surface sites.

At the present time, both in our country and abroad, a conversion is being carried out over to storing beet raw materials in open and completely mechanized storehouses of various designs and with forced ventilation. This will raise to a considerable degree the opportunities for organizing efficient acceptance and storage operations.

The production operation of a hydromechanized storehouse at the Salivonkovskiy Sugar Plant over a period of many years has confirmed its effectiveness. The complete observance of the technological requirements for beet storage at this facility brought about a reduction in beet bulk and sugar losses of 15-20 percent and in labor expenditures -- by a factor of 2.5-2, compared to the usual organization for storing raw materials on clamp fields.

The Food Program for the period up to 1990 calls for the construction at sugar plants of 15 million square meters of mechanized storehouses and hard surface sites for the storage of beets with forced ventilation.

During 2 years of the 11th Five-Year Plan, storehouses and hard surface sites offering 2,913,000 square meters of space were built for the sugar industry as a whole, including only 614,000 square meters or 19 percent of the task with forced ventilation. Roughly 1,063,000 square meters of such space were built at sugar plants in the RSFSR, including 298,000 square meters or 24 percent of the plan with forced ventilation and for the Ukrainian SSR the figures were 1,592,000 square meters and 219,000 square meters, or 14 percent of the plan respectively.

In 1982 no construction was carried out on sites with forced ventilation at sugar plants of the Voronezh, Orel, Tambov, Kirovograd, Sumy or Cherkassy Associations of the sugar industry. It bears mentioning that the capabilities available at sugar plants for storing sugar beets with forced ventilation are not being employed satisfactorily at a number of plants and last year absolutely no use was made of them at the Sadovskiy and Kalacheyevskiy Sugar Plants of the Voronezh Association. Similar situations prevail at a number of other sugar plants of the branch.

In 1982 the task for storing beets with forced ventilation was fulfilled by only 41 percent by sugar plants of the RSFSR Minpishcheprom /Ministry of the Food Industry/, Ukrainian SSR -- by 34 percent. The 1982 task for storing beets using biologically active substances was not fulfilled. Sugar plants in the RSFSR fulfilled this task by only 30 percent and those in the Ukrainian SSR -- by 38 percent.

Many sugar plants are not concerning themselves with acquiring or producing covering materials and in those areas where such materials are available, full use is not being made of them.

According to data supplied by scientific research institutes, 10-12 percent of the beet bulk and 6-8 percent of the sugar are lost when the outside layer of beets in uncovered clamps is frozen to a depth of 0.5-0.6 meters.

Such shortcomings in the raw material economy of sugar plants cannot be tolerated. The leaders and specialists of associations and sugar plants must thoroughly analyze the work of each beet receiving point, uncover the existing shortcomings and outline measures for eliminating them; measures must be undertaken aimed at ensuring the unconditional fulfillment of the 1983 tasks for building storehouses and sites having hard surfaces and forced ventilation; covering materials and other resources required for preserving the beets during their period of storage must be procured in a timely manner; the workers attached to the raw material economy of sugar plants and associations must display greater responsibility for above-normal losses in the raw materials and in their sugar content.

Our country's workers are actively striving to fulfill ahead of schedule the plan for the third year of the five-year plan and to implement the Food Program approved during the May (1982) Plenum of the CC CPSU. The sugar industry workers and the country's beet growers are under an obligation -- to introduce on an extensive scale the Yampol initiative for increasing the production of sugar from each hectare of a beet field, to achieve a high sugar beet yield this year and to raise the quality of the beets so as to be able to over-fulfill the 1983 task for producing sugar from beets.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

IMPORTANCE OF SEEDS IN ABUNDANCE OF FUTURE HARVESTS

Moscow MUKOMOL'NO-ELEVATORNAYA I KOMBIKORMOVAYA PROMYSHLENNOST' in Russian No 8, Aug 83 pp 1-3

[Article by P. Merkulov, RSFSR minister of procurement: "Seeds Are the Basis for the 'harvest'"]

[Text] The Soviet people live and work under the all-around effect of the June (1983) Plenum of the CPSU Central Committee, the speech of Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, at it and the adopted decisions, which set forth the ways of the further improvement in our socialist society and its spiritual and economic life. Our society faces tasks of an unprecedented scale and the food problem is one of the major ones. Collectives of enterprises of national economic sectors forming part of the agroindustrial complex work on its fulfillment with inspiration and creativity.

The workers of the procurement system of the Russian Federation will have to make a significant contribution to the fulfillment of the food program. The fulfillment of the plan for purchases of varietal seeds for the establishment of a state seed stock is one of the important and big tasks for them.

The party and the government have always attached great importance to the production of varietal seeds as one of the effective means of increasing the yield of all agricultural crops.

The importance of varietal seeds was stressed with special force at the May (1982) Plenum of the CPSU Central Committee. The USSR Food Program envisages transferring grain crop seed breeding to an industrial basis and accelerating the introduction of highly productive, new varieties and hybrids into production.

In the organization of the most rapid introduction of highly productive regionalized seed varieties into production an important place is assigned to the enterprises of the procurement system. The introduction of new varieties of grain and oil crops into production, increase in their yield and provision of the national economy with the necessary assortment of grain and oil seeds largely depend on how the purchase of seeds, their prompt and high-quality processing and delivery to sowing places are organized.

Grain and oil crop seeds of 360 varieties and hybrids are purchased for state resources in the republic. Nonfulfillment of the plan for purchases of seeds of even one variety in a number of cases can lead to a harvest deficiency on kolkhoz and sovkhos fields. Therefore, state resources must have a sufficient quantity of seeds of the necessary regionalized varieties and, consequently, purchase plans must be fulfilled not only for crops, but for every variety as well.

This is obvious, but, unfortunately, is by no means always fulfilled in practice. For example, in the last 5 years the plan for purchases of varietal grain crop seeds has been fulfilled only twice. Even during years when, on the whole, the purchase plan was fulfilled, for such crops as seeds of leguminous crops, oats, barley and sorghum purchase plans were not fulfilled, although there was a great need for the seeds of these crops.

Kolkhozes and sovkhoses in Novgorod, Ivanovo and Rostov Oblasts have not fulfilled the plans for the sale of varietal leguminous crop seeds in any of the last 5 years and the managers of state procurement inspectorates and administrations of grain products in these oblasts have not taken the proper measures to rectify the situation.

Nonfulfillment of the established plans for purchases of varietal seeds leads to the need to select ordinary grain for sowing purposes and unjustified transport operations, for which substantial funds are spent. However, the main shortcoming lies in the fact that seeds of nonregionalized varieties are brought to some oblasts and this has a negative effect on the yield. With such seeds it is difficult to accomplish the principal task of the food program, that is, to increase grain production.

Where proper attention is paid to problems connected with purchases of varietal seeds and where workers of grain receiving enterprises work hand in hand with agricultural bodies, kolkhozes and sovkhoses, plans are fulfilled annually. This applies to the Omsk, Saratov, Bashkir, Kalmyk, Kurgan, Kabardino-Balkar, North Osetian, Kemerovo and Tomsk administrations of grain products.

Of no lesser importance is the quality of seeds entering state resources, which must be within the norms of limiting quality requirements and in germination and impurities that are difficult to separate, not below the norms of the second category of the seed standard. Unfortunately, however, state resources receive a negligible quantity of such seeds--in 1980, only 17 percent, in 1981, 20 percent and from the 1982 harvest, 22 percent. Especially low-quality oat, barley, millet and buckwheat seeds are received. The quality of pea and sunflower seeds has deteriorated. From last year's harvest in Kalinin, Kostroma, Tula, Tambov, Volgograd, Novosibirsk and Rostov Oblasts only 10 to 15 percent of the grain crop seeds met limiting quality requirements.

A large quantity of grain crop seeds is procured with the presence of impurities that are difficult to separate and greatly exceed the norms.

When selling low-quality varietal seeds to the state, kolkhozes and sovkhoses in the Russian Federation fail to obtain up to 200 million rubles. If, however, farms are engaged in the production of high-quality seeds for sale to

the state, they have a sizable income. A number of farms in Altay Kray, in Tula, Kurgan and Tambov Oblasts and in other oblasts in the republic receive big monetary increments annually. It is necessary to widely popularize the experience of the best farms and state procurement inspectorates, administrations of grain products and grain receiving enterprises play a big part in this.

The distribution of a significant quantity of seeds of the third category of the seed standard to farms is a shortcoming in the operation of the enterprises of the RSFSR Ministry of Procurement. For example, for the spring sowing of 1983 only one-half of the distributed seeds were of the first and second category. The reason for this lies not only in the fact that grain receiving enterprises receive low-quality seeds, but also in the fact that insufficient work is done on bringing seeds up to high-quality requirements. Meanwhile, there are possibilities for this. More than 1 million tons of seed processing capacities have been additionally put into operation in the republic in the last few years alone.

However, this capacity is not utilized with sufficient efficiency everywhere. For example, in September-October of last year seed cleaning hardly began at the Zavodoukovsk Elevator in Tyumen Oblast, the Khomutovo Elevator in Orlov Oblast, the Atyashevo Grain Receiving Enterprise of the Mordovian ASSR and the Kamensk Combine of Grain Products in Penza Oblast. Unfortunately, there are many such enterprises.

Large funds have been spent on the development of the material and technical base for seed processing and in no way can its incomplete return be considered a norm. Existing seed processing capacities must operate from the first days of arrival of seeds at grain receiving enterprises and around-the-clock at that. The experience of many administrations of grain products indicates that this is possible: for example, the Kurgan Administration of Grain Products. Whereas in 1981 the grain receiving enterprises of this administration received only 45 percent of seeds meeting the norms of the second category in impurities that were difficult to separate, in 1982 such seeds comprised 72 percent. Grain receiving enterprises have essentially completed seed preparation by 1 January of the current year.

This administration and the oblast's enterprises pay much attention to technological discipline, progressive wages and socialist competition. The totality of all these measures has made it possible to prepare and distribute 92 percent of first- and second-category seeds for sowing to kolkhozes and sovkhoses.

Grain receiving enterprises in Kaluga, Smolensk, Kaliningrad, Novosibirsk and Leningrad Oblasts and in the Chuvash and Tatar Autonomous Republics distribute more than 90 percent of first- and second-category seeds for sowing. However, even this indicator cannot be considered satisfactory, because the percent of first-category seeds is also low here.

The task is to allocate the basic quantity of seeds of the first category of the seed standard alone to kolkhozes and sovkhoses. This is a difficult matter, but with active work in agroindustrial associations and the rayon agroindustrial association it can be accomplished in the very near future.

The course of development of the material and technical base for seed processing should also be under constant control. It is intolerable that at the enterprises of the Ivanovo, Kemerovo, Leningrad and Astrakhan administrations of grain products seed cleaning facilities are built at slow rates and the allocated capital investments are not utilized. The managers of administrations of grain products should fundamentally revise their attitude toward the construction of seed cleaning facilities and put them into operation on the scheduled dates.

Work with hybrid and varietal corn seeds must be singled out especially. The plans for purchases of the seeds of this crop are fulfilled annually. As yet, however, not everywhere. This occurs in Belgorod and Voronezh Oblasts and in the Chechen-Ingush ASSR. In the North Osetian ASSR the fulfillment of the plans for purchases of corn seeds is still at the expense of second-generation seeds. From the 1982 harvest their proportion comprised more than 80 percent.

The arrival of first-generation hybrid seeds and medium-early- and early-ripening hybrids at grain receiving enterprises has increased, although the plans for their purchases throughout the republic are not fulfilled.

The acceptance of corn seeds according to the agreed schedules is not yet ensured, as a result of which pending drying up to 200,000 tons of damp corn ears are accumulated at grain receiving enterprises.

The quality of corn seeds produced by plants for the processing of hybrid and varietal corn seeds has improved. Whereas during the years of the 10th Five-Year Plan, on the average, 76 percent of first- and second-category seeds were prepared, during 2 years of the current five-year plan 91 percent of such seeds have been prepared.

Last year the plants of the Krasnodar Administration of Grain Products turned out 93 percent of first-category corn seeds and 10 plants prepared all seeds of the first category of the seed standard alone.

Of the total quantity of corn seeds 90 percent of the first category were produced by the Nalchik, Terskiy and Soldatskiy plants in the Kabardino-Balkar ASSR, by the Beslan and Elkhotovskiy plants in the North Osetian ASSR, by the Khasavyurt Plant in the Dagestan ASSR, by the Kirov Plant in Rostov Oblast and by the Grachevskiy Plant in Stavropol Kray.

The unsatisfactory situation with the production and purchases of the grain of wheat of durum varieties causes general concern. Its production is concentrated in eight oblasts and two autonomous republics of the Russian Federation. All of them did not ensure the fulfillment of the plans for purchases of this grain during the 10th and 2 years of the 11th Five-Year Plan.

Nonfulfillment of the plan for purchases of the grain of wheat of durum varieties is primarily the consequence of the insufficient attention to its cultivation, the unsubstantiated reduction of sown areas, shortcomings in seed breeding and the use of seeds of mass reproductions and low sowing qualities for sowing. For example, last year only 15 percent of the purchased varietal

seeds of wheat of durum varieties met the norms of limiting quality requirements. This led to the fact that in state resources there was no sufficient stock of seeds to meet the orders of kolkhozes and sovkhozes.

The attitude toward the production and procurement of the seeds of wheat of durum varieties must be changed fundamentally. The problem of increasing the production and sale of the grain of wheat of strong and durum varieties to the state was examined at a joint collegium of the RSFSR ministries of agriculture and procurement in May 1983. Specific measures directed toward the fulfillment of the established plans by every kolkhoz and sovkhoz were determined and operative groups for the organization of the cultivation, harvesting and procurement of wheat of strong and durum varieties were created.

The necessary reserve of the seeds of wheat of durum varieties of high reproductions with good varietal and sowing qualities should be established in state resources.

This year is decisive for the entire five-year plan. Therefore, it is necessary to make maximum efforts in order not only to fulfill the current year's plans, but to significantly make up for the deficiency in output tolerated during past years. In terms of purchases of grain, oil seeds and other agricultural crops for state resources it is significant. Therefore, it is necessary to wage a decisive fight against any violations of state and labor discipline and to construct all work on the basis of the realization of the food program and of the decisions of the May and November (1982) and June (1983) Plenums of the CPSU Central Committee.

Only with a high measure of exacting requirements and responsibility for the entrusted job is it possible to increase the production of agricultural products at the given rates and to ensure the fulfillment of the food program. The plan for purchases of varietal seeds for every crop and variety should be completely fulfilled this year and their quality should be improved sharply. This is the duty and direct obligation of all the workers of the procurement system.

Every grain receiving enterprise must find its proper place in the agroindustrial complex and in the implementation of the food program, actively perform its role in the fulfillment of the plans for purchases of agricultural products, participate in the sphere of agricultural production, exercise daily control over the production and harvesting of varietal seeds intended for sale to the state on seed breeding farms, depending on the state of the harvest efficiently and promptly submit the necessary proposals to local party and Soviet bodies and to the rayon agroindustrial association for the refinement of the plans for the sale of varietal seeds, place higher demands on farms for the nonfulfillment of the plans for the sale of seeds by crops and varieties, engage in the necessary organizational work, assign a better capacity equipped with active ventilation facilities for the acceptance and storage of seeds in terms of 2 tons of capacity per ton of seeds and ensure the bringing of seeds up to quality requirements of the first and second category of the seed standard.

The collectives of state procurement inspectorates, production administrations of grain products and enterprises of the RSFSR Ministry of Procurement face big tasks. Their successful implementation requires more accuracy, efficiency, persistence, initiative and coordination with all the departments of the agro-industrial complex in work.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST PROGRESS IN KUSTANAY OBLAST DISCUSSED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 30 Aug 83 p 1

[Article by V. Dik, special correspondent of KAZAKHSTANSKAYA PRAVDA, Kustanay Oblast: "In a Difficult Hour of the Harvesting Campaign"]

[Text] Clouds have thickened over the Kustanay field in the literal sense of the word. Incessant rain has been pouring in many rayons for a week. There is an emergency situation. A number of farms in the oblast's northern zone have already fully completed grain harvesting. Now they only have to thresh and thresh, especially as the grain here is singular. However, combines are standing at the edge of the field, while there is a continuous rain precipitation over them.

There is a different situation in the south. The hot weather that preceded the harvesting had an effect--grain is short. Whereas during previous years swath harvesting was the basic harvesting method, now it is straight combining. On some sovkhoses its level reaches 90 percent. It is much more complicated where both methods must be used, sometimes on one field. It is not difficult to imagine what load is placed on the shoulders of farm specialists, machine operators and threshing floor workers.

However, people's psychology is perhaps the most complicated matter. Kustanay grain growers have long become accustomed to swath harvesting. This technology has been fully adjusted and tested and has brought success more than once. But now we must reorganize ourselves in the process of work: The present grain cannot be harvested so simply. Hence farmers face two main tasks, that is, to avoid grain losses in the field and, at the same time, to save straw. These tasks are accomplished successfully. Efficiency experts and sometimes simply good sense come to their aid. Machine operators build up reels and reequip harvester-stackers in order to avoid not only straw, but also chaff, losses.

There is another way out of the situation. In swath harvesting grain is often mowed into double swaths. For example, last year special efficiency was not attained by such a method. In practice, it turned out that swaths were placed side by side, one ear next to another. It is difficult to remove such grain and, moreover, losses cannot be avoided. On the Myktykol'skiy Sovkhoz harvesters have now been subjected to a serious reorganization. Now one swath is placed exactly on another. There are no problems: The "corn field" calmly copes with the load.

Operative equipment maneuvering has become the remarkable feature of the present harvesting campaign. The improved skills of people, who have united themselves into unregulated brigades and links, contributes to this in many respects. For example, the Razdol'nyy Sovkhoz in Naurzumskiy Rayon has selected a variant of the harvesting complex somewhat different from others for the harvesting period. It consists of three overall detachments and one harvesting-transport detachment. Every detachment includes only 20 combines--four in a link--and a technical servicing link. Such a mobile fighting unit can be easily rebased in another brigade at the necessary moment. Proceeding from the real situation the management of sovkhozes can change the harvesting tactic in an hour.

The hour of the harvesting campaign in virgin land is difficult. The information-propaganda center established under the oblast party committee receives current reports every hour. They give an idea not only of how much has been mowed and threshed, but also how much and where rain has fallen during these hours. Special tables are filled and the picture is clear: Komsomolskiy, Fedorovskiy and Borovskoy Rayons are still in a state of "siege." Throughout the oblast the rates of harvesting operations have declined considerably. The immediate task is to increase the daily output of units in hay harvesting to 300,000 hectares.

The complicated harvesting conditions also uncover certain organizational shortcomings. On the Sovkhoz imeni Abay in Taranovskiy Rayon even during a favorable time the rates of harvesting are low. One-third of the combines are idle at the machine yard. This has happened because of the shortage of machine operators. The sovkhoz has not trained a single machine operator for winter.

The coordination of the harvesting conveyer presupposes an efficient interaction of the partners of grain growers in the agrarian-industrial complex. It is now easier to distribute the harvest to procurement officials. The second stage of the Borovskiy Elevator has been put into operation. A reconstruction has also been carried out at the Kustanay Grain Product Combine. The basic part of the equipment has been replaced here and a bucket elevator of a productivity of 350 tons of grain per hour has been installed--it is much stronger than its predecessor. Now the entire problem is to organize a preliminary evaluation of grain--to determine the content of gluten in it directly in the field. Only a more efficient interconnection of sovkhozes and elevator laboratories is needed.

The relations with the Agricultural Equipment Association are more complicated. Its subdivisions still champion narrow departmental interests. Let us take the provision with spare parts. Fingers of cutting apparatus for combines, cutter blades and variable-speed drive belts have not arrived at sovkhozes. They have been accumulated at the warehouses of rayon associations. Now they are being distributed. A picture of complete well-being appears, but is this so in practice? To whose account should we write off the many hours of the forced downtime of equipment owing to the shortage of these parts? Every minute is truly precious during the present harvesting campaign. It is not accidental that in Stantsionnyy I have been told that in the evening all machine operators switch television sets to Chelyabinsk. Powerful storm cyclones come one after another from this direction.

When these lines were transmitted, a small blue window appeared over Kustanay for the first time last week—for the time being, over Kustanay alone.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST PROGRESS IN KUSTANAYSKIY RAYON DISCUSSED

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Aug 83 p 1

[Article by V. Sidorova, first secretary of the Kustanayskiy Rayon Committee of the Communist Party of Kazakhstan, Hero of Socialist Labor, Kustanay Oblast]

[Excerpts] Wheat also promises a good harvest, not only in the weight of grain, but also in its quality. A preliminary analysis of the durum almaz variety and of the strong saratovskaya-29 variety has shown a content of gluten in grain of 34.8 and 32.5 percent respectively. Virgin-land wheat has confirmed its high prestige.

Now, however, the main thing for all of us--grain growers, party workers and managers--is to gather the harvest in the shortest time. The reaping campaign has now begun in the rayon 2 weeks earlier than usually. The hot weather, which has again set in in virgin land, demands that even this time unusual for our places be utilized more efficiently. I am confident that it will be shortened. Almost all the rayon's machine operators have responded to the appeal of our advanced grain growers, about whom I have already reported. For example, the workers of the sovkhos imeni Pavlov have undertaken to mow and thresh grain crops from an area of 24,000 hectares in 16 work days. We have not known such rates before.

In the rayon grain crops have already been mowed into swaths from more than 30 percent of the sown areas. We are beginning their threshing. However, the undertaken rates do not suit us. Now it is necessary to test various harvesting methods in order to prevent the overripeness of standing grain. We recommend, depending on the state of grain crops, the use of swath harvesting, straight combining, reequipment of units for a maximally low cut and a broad equipment maneuver. It must be stated that this year farms receive more substantial assistance from their partners in the agroindustrial complex, primarily from the association of the State Committee for Supply of Production Equipment for Agriculture, which has fully undertaken the technical servicing of harvesting units and is engaged in competent technical management of the reaping campaign.

However, harvesting has just begun. Many intense and difficult days of the harvesting campaign are still ahead. It is pleasant to realize that the people's mood is high--to win the fight for grain. This is also indicated by

the unanimous approval by all the rayon's grain growers of the increased obligations for the delivery of grain, which we have adopted the day before. Sovkhozes and kolkhozes in our rayon have promised to fulfill one and a half plans for the sale of grain to the state.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, PROBLEMS IN SEED BREEDING DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 9 Jul 83 p 1

/Editorial: "Variety, Seeds and Harvest"/

/Text/ Long-term experience indicates that high-quality seeds, along with a skillful application of fertilizers, rational soil cultivation and improvement in the crop structure, are some of the basic factors in an increase in the efficiency of farming. Sowing first-category seeds of highly productive regionalized varieties on fields, year after year, regardless of weather conditions, farming experts obtain high harvests and gross output of grain, potatoes, vegetables, cotton, feed and other field products. There are many examples of this. They exist in almost every oblast and every rayon. Therefore, it is not accidental that in zonal farming systems paramount importance is attached to seed breeding, because without a full provision of kolkhozes and sovkhozes with standard seeds of the best varieties of agricultural crops the efficiency of all the other links of the agrotechnical complex is lowered.

Extensive work on the concentration and organizational regulation of selection and seed breeding has been done in our country in the last few years. A total of 50 selection centers for grain, fodder, industrial, vegetable and fruit and berry crops, as well as potatoes, have been established in various natural zones. Republic, kray and oblast varietal seed breeding associations with a wide network of specialized farms and stations operate in the country. As a result, the efficiency of work on developing new varieties and hybrids of agricultural plants has risen markedly and the provision of farms with seeds has improved.

Many highly productive varieties of grain and other crops are now cultivated on kolkhoz and sovkhoz fields. For example, in winter wheat cultivation zones there is now quite an extensive set of varieties of intensive and semi-intensive types. Many of them are capable of producing grain harvests at the level of 60 to 80 quintals per hectare and more. With the development of new short-stem varieties, following winter wheat, winter rye (chulpan, voskhod-2 and talovskaya-12 varieties) also reaches the level of 50- to 60-quintal harvests. This is of especially great importance for farms in the nonchernozem area, the Volga area, the Urals and a number of other zones, where this grain crop should occupy the leading position in the grain field.

However, as noted at the April conference of the first secretaries of the Central Committees of the Communist Parties of the Union republics and of kray and oblast party committees in the CPSU Central Committee, the varietal potential is not yet fully utilized in our country. Proper attention is not paid everywhere to the matter of an accelerated movement of highly productive varieties and hybrids to kolkhoz and sovkhos fields, as a result of which their sown areas increase slowly. Sizable areas assigned for grain crops are sown with seeds of nonregionalized varieties; for example, in Novgorod, Vladimir, Gorkiy and Ivanovo Oblasts. Throughout the RSFSR nonchernozem zone sowings of regionalized varieties of the leading leguminous crop--peas--for example, comprised only 38.6 percent last year and such an outstanding variety as neosypayushchiysya-1, which was regionalized there more than 6 years ago, occupied only 4.5 percent of the areas sown with this crop.

A great deal depends on how the reproduction of new varieties and hybrids, their primary seed breeding and, especially, the growing of superelite and elite seeds are organized. Unfortunate irregularities often occur in this link. For several years after regionalization, for example, such winter rye varieties as voskhod-1 and voskhod-2 and such winter wheat varieties as zarya developed in the Scientific Research Institute of Agriculture of the Central Regions of the RSFSR Nonchernozem Zone cannot occupy the proper place on fields. Unfortunately, many institutes, experimental stations and elite seed breeding farms do not yet satisfactorily organize the reproduction of selection innovations, owing to which their appearance on kolkhoz and sovkhos fields is delayed many years. Often the new variety becomes obsolete before it occupies the envisaged areas.

Meanwhile, Krasnodar Kray, Omsk Oblast, the Ukraine, Lithuania and a number of other republics and oblasts have accumulated very valuable experience in an accelerated movement of the best varieties and hybrids of agricultural crops to fields. Plots for the reproduction of their seeds are established there immediately during the year of transfer to state strain testing and not only on the experimental farms of originating institutions, but also on kolkhozes and sovkhoses located in various soil and climatic zones and micro-zones. Thus, by the time of regionalization of new varieties a big reserve of seeds is established here and it is possible to rapidly turn to their mass sowing.

Unfortunately, some agricultural bodies, specialists and farm managers do not manifest proper persistence and initiative in the matter of a fundamental improvement in seed breeding and regulation of strain renovation and change. Moreover, in a number of farms and rayons there were cases when during the period of harvesting and grain procurement seeds of high reproduction were sold as ordinary grain and then fields were sown with seeds of a low quality and often of nonregionalized varieties. Such a practice was resolutely condemned a long time ago and must not be repeated anywhere. Therefore, one of the primary concerns of rayon and oblast agroindustrial associations must involve the most rapid strengthening of the material and technical base of seed breeding farms and a fuller satisfaction of their need for fertilizers, herbicides and other agents ensuring an increase in the production of high-quality seeds.

The harvesting campaign has already unfolded in many of the country's regions. In the order of urgent matters it is now important to see to it that high-quality varietal seeds are procured and fully preserved. For this on every farm, rayon and oblast it is advisable to carefully analyze the varietal composition of the sowings of grain and other agricultural crops and to actively engage in the procurement of seeds of the most valuable varieties and hybrids, utilizing the interfarm and interoblast exchange for this. It is very important to ensure an efficient operation of grain cleaning and drying equipment and the preparation of storage facilities, without which there can be no question of the procurement of high-quality seeds. The experience of farms, where laboratories for the quality of grain and other products have been established, deserves attention. They help managers and specialists to exercise constant control over the observance of the technological processes of harvesting, drying, cleaning and storing seeds.

The agronomical service of kolkhozes and sovkhoses has great capabilities in the matter of movement of new varieties to fields and in the organization of their seed breeding. On farms, where agronomists work creatively and with initiative, as a rule, the best selection and technological innovations move rapidly to fields. For example, the Kolkhoz imeni Tel'man in Zmeinogorskiy Rayon, Altay Kray, where P. S. Samoylov works as the chief agronomist, owing to an active introduction of grain crop varieties promising for the zone, under harsh Siberian conditions stably obtains more than 20 quintals of grain per hectare. During the last two five-year plans the yield of grain crops has been doubled here.

The experience of farms stably gathering high harvests of grain and other crops points to the advisability of cultivating not one, but several varieties of every crop differing in ripening periods and other properties. This makes it possible to avoid harvest losses and fluctuations in gross output over the years.

One of the paramount tasks of rural party, Komsomol and trade-union organizations, agroindustrial associations, kolkhozes, sovkhoses and all rural workers is to see to it that every kolkhoz and sovkhos provides itself with high-quality seeds of regionalized and promising varieties. To accomplish it means to establish a firm basis for the production of high harvests next year and during subsequent years and for a successful implementation of the USSR Food Program.

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CSO: 1824/585

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST PROGRESS IN AKTYUBINSK OBLAST

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 25 Aug 83 p 1

/Interview with N. Soldatenko, head of the division of agriculture and the food industry of the oblast party committee, by Yu. Pautov, KAZAKHSTANSKAYA PRAVDA correspondent, Aktyubinsk Oblast; date and place not specified/

/Excerpts/ It is hot now in the grain fields of Aktyubinsk Oblast. Not only the sun is to blame for this. The hot breath of the harvest campaign is felt in everything. A correspondent of KAZAKHSTANSKAYA PRAVDA asked N. Soldatenko, head of the division of agriculture and the food industry of the oblast party committee, to talk about how the harvesting campaign was proceeding.

/Question/ This year grain growers in Aktyubinsk Oblast have grown a good harvest and undertaken high obligations to store 1,135,000 tons of grain in the homeland's bins, which comprises one and a half plans. Thus, the assignment of the 11th Five-Year Plan for the sale of grain will be fulfilled in 3 years. What work has been done by the oblast's party organizations on an increase in grain production and prompt harvesting?

/Answer/ Extensive work on raising the standard of farming, expanding sown areas by plowing unproductive land and improving the management of agriculture has been done under the guidance of party committees in the oblast in the last few years. All this has resulted in an increase in grain production.

A multithousand detachment of machine operating personnel has been trained on farms for a successful execution of the harvesting campaign. Their training has also been organized at industrial enterprises and in organizations in cities and rayon centers. Owing to this, 2,700 combine operators have been sent to the harvesting campaign from Aktyubinsk and rayon centers. A total of 8,000 combines and 2,000 harvesters now operate in the grain field. The necessary number of motor vehicles and a great deal of other equipment have been mobilized for grain transportation.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVEST PROGRESS IN TSELINOGRAD OBLAST

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Aug 83 p 1

/Article by I. Yavorovskiy, KAZAKHSTANSKAYA PRAVDA correspondent, Tselinograd Oblast/

/Excerpts/ Nature now subjects farmers in the virgin-land Ishim area to an unusually difficult test. Even experienced grain growers do not remember such a lengthy drought. With vain hope they waited for July rains life-giving for the field. But they did not come. Nor did they fall during the ear forming period. There was no rain for more than 2 months. All the oblast's rayons were subjected to the drought, but it did especially great damage to grain growers in Yermентаuskiy, Seletinskiy and Kurgal'dzhinskiy Rayons. Nevertheless, grain crops ripened. Now it is important to gather them without losses. After all, the harvest was grown at a very high price.

The task of carrying out the reaping campaign in the shortest time is perhaps acute as never before. Grain growers aim at doing this in 18 to 20 days and at completing the harvesting by the beginning of September. Specialists have estimated that every day of overripeness of grain crops results in a loss of 15 to 20 kg of grain per hectare. In order to avoid this, grain growers must harvest grain crops at least from 150,000 hectares every day.

Owing to the heat, grain crops are ripening simultaneously. This means that those that will put all equipment into operation at once will win. This was taken into consideration in Astrakhanskiy, Balkashinskiy, Makinskiy and Tselinogradskiy Rayons, where all equipment was fully ready by the beginning of the reaping campaign.

Another feature lies in the fact that grain crops are now low-growing. Therefore, the selection of harvesting technology is of exceptionally great importance. Most fields will be threshed directly. Therefore, all combines have been reequipped for a low cut and carefully sealed hermetically and harvester-stackers have been adapted for a full collection of chaff and straw.

This feature also puts another task in the forefront, that is, a highly productive utilization of combines, because a considerable part of the grain crops will have to be harvested at lowered speeds.

Weighing facilities are imperfect on some sovkhoses. The problem can be simplified if conditions for the loading of tractor-trailer units directly from grain cleaning machines are created on all sovkhoses. All these problems must be solved.

The reaping has begun. Its rates are growing rapidly. "Everything That Has Been Grown Must Be Harvested on Time and Without Losses, Everything That Has Been Harvested Must be Preserved Reliably!" is the slogan of grain growers. This slogan can now be seen in every field camp. It is in the heart of every grain grower. Shock labor in the virgin-land field attests to this.

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CSO: 1824/573

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

GRAIN ELEVATOR RECONSTRUCTION--Alma-Ata--Kazakhstan's procurement workers guarantee a full preservation of grain. Today the republic's last oblast--Kokchetav--has completed the preparation and reconstruction of elevators. Owing to the improvement in the lines of grain acceptance, cleaning and transportation, their capacity has increased considerably. /Text/ /Ashkhabad TURKMENSKAYA ISKRA in Russian 4 Aug 83 p 1/ 11,439

BARLEY HARVESTING--Kokchetav Oblast--The harvesting of grain crops has begun here earlier than usually. Machine operators of the virgin-land Razdol'nyy Sovkhoz were the first to take out harvesting units to the barley field. Barley harvesting is carried out by direct combining, which will help to shorten the period of the harvesting campaign and to prevent harvest losses. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 Aug 83 p 1/ 11,439

GRAIN THRESHING--Kokchetav--The first thousands of hectares of grain crops have been threshed in the oblast. /Excerpt/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Aug 83 p 1/ 11,439

GRAIN RIPENING--Kokchetav Oblast--The hot summer has accelerated grain ripening. A number of the oblast's farms have begun the harvesting of leguminous crops 1½ to 2 weeks earlier than last year. For example, in Leninskiy Rayon all peas have already been cut and barley has been put into windrows on more than 3,000 hectares. The harvesting of peas and barley has also begun in Kellerovskiy, Krasnoarmeyskiy, Chkalovskiy and some other rayons in the oblast. Mutual checks and reviews of the preparedness for reaping have been conducted everywhere, work plans have been discussed and agronomical conferences have been held. Farmers in Kokchetav Oblast have completed the last preparations for mass grain harvesting. /By G. Maslov, KAZAKHSTANSKAYA PRAVDA correspondent/ /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 12 Aug 83 p 1/ 11,439

SALE OF EARLY HARVEST--The ripening of grain crops on the oblast's fields has begun 1½ to 2 weeks earlier than usually. Farmers of the Takhtabrodskiy Sovkhoz in Chistopol'skiy Rayon were some of the first to harvest spring barley, threshing 27 quintals of grain per hectare. Machine operators of the Leninzholy Sovkhoz in Zerendinskiy Rayon are piling up barley. Farms in Kuybyshevskiy Rayon and Novosvetlovskiy, Salkynkul'skiy and Privol'nyy Sovkhozes have decided to overfulfill the previously adopted obligations for the sale of grain to the state. The initiative has been approved by the oblast party committee. It has been discussed in the press and on the radio. /By A. Lysenko/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 17 Aug 83 p 1/ 11,439

HARVESTING-TRANSPORT COMPLEXES--Kokchetav Oblast--The reaping campaign in the Kokchetav area has gotten off to a rapid start. In the oblast grain and leguminous crops have already been mowed on more than 100,000 hectares. All rayons have joined the harvesting campaign. A simultaneous and such an early ripening of grain crops is one of the characteristics of this summer. The reaping campaign has not taken virgin-land farmers by surprise. Everywhere the preparedness of harvesting equipment is higher than last year. A total of 729 harvesting-transport complexes and more than 5,100 links have been established and most of them have already joined in work. The brigades and links transferred to the collective contract show a truly proprietary approach in the solution of all problems. A total of 800,000 hectares, or about one-third of the sown areas, have now been assigned to them. On the eve of the reaping campaign workers in Kuybyshevskiy Rayon have appealed to all the oblast's farmers to organizationally carry out the harvesting and procurement of agricultural products. Their obligation is to obtain 14 to 14.5 quintals of grain per hectare and to store no less than 13 million poods of high-quality grain in state bins. The slogan "Everything That Has Been Grown Must Be Harvested and Preserved!" is becoming common for grain growers and all their partners. For the time being, however, such cooperation is insufficient in Valikhanovskiy, Leningradskiy and some other rayons. /By G. Maslov, KAZAKHSTANSKAYA PRAVDA correspondent/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 12 Aug 83 p 1/ 11,439

HAY HARVEST--Turgay Oblast--The warm weather that has set in after the cool rain in May has brought about a rapid growth of mixed steppe grass. Expanses gladden the eyes with fresh succulent greenery. The people of Turgay Oblast have prepared themselves in advance for the "green harvest." The first tons of fragrant hay have arrived at the hay lofts of sheep breeding farms in Dzhangildinskiy, Amangel'dinskiy and Amantogayskiy Rayons. Quite frequently there is a storm over Turgay's expanses, at times disrupting the regularity of the hay harvest. The immediate forecast is also distressing. Therefore, active ventilation installations and units for the preparation of vitamin-grass meal capable of processing green mass of increased moisture are in full operation on many farms. The rates of fodder accumulation increase every day. The people of Turgay Oblast firmly intend to achieve the goal set. /By V. Sabel'yev, KAZAKHSTANSKAYA PRAVDA correspondent/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 9 Jun 83 p 1/ 11,439

BARLEY DELIVERY--Arkalyk--Sovkhozes in Zhanadalskiy, Arkalykskiy and Amantogayskiy Rayons have delivered the first hundreds of tons of barley to the Arkalyk elevator. Its quality is good. In the oblast farms in all rayons thresh barley. A total of 1,500 combines used by the group method have already been put into operation. Harvesters have been set at a low cut. Brigades transferred to the collective contract have grown one-fifth of the grain crops in the oblast. All these subdivisions and most others have adopted labor methods providing for the most efficient utilization of units. Sites for the night servicing of machinery have been equipped. Every tenth link in the reaping campaign is now a family link. Machine operators in Amantogayskiy Rayon have captured the lead from the first days, threshing grain on 10 percent of the area in a short time. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Aug 83 p 1/ 11,439

SELECTIVE GRAIN HARVESTING--Turgay's farmers have embarked on the selective harvesting of grain crops, which have ripened earlier than usually. However, even before the beginning of mass grain procurement the preliminary quality of grain is now determined by dozens of mobile express laboratories of the oblast administration of grain products. /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 Aug 83 p 1/ 11,439

FIELD EXPRESS LABORATORIES--Turgay Oblast--The first batches of grain have arrived at threshing floors in a number of the oblast's rayons. A check has shown that the preliminary data of field express laboratories are very accurate. Strong Turgay grain will soon pour in a wide stream into state bins. /By L. Charapkina, senior engineer in the division of procurement of the Turgay Oblast Administration of Grain Products/ /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 Aug 83 p 1/ 11,439

LARGE GROUP METHOD--Arkalyk (KazTAG)--The oblast's machine operators have gathered the harvest from the first 50,000 hectares of grain crops. More than 7,000 units have been taken out for the reaping campaign. All of them are used in a highly productive manner by the large group method. Machine operators from the RSFSR, Belorussia and the Ukraine have come to the aid of local grain growers. The flow of grain to elevators increases every day. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Aug 83 p 1/ 11,439

WHEAT HARVESTING--Turgay Oblast--A harvesting campaign is going on on the fields of Turgay Oblast. The first million poods of wheat have been delivered to the state. Farms in Zhanadalinskiy Rayon are engaged in reaping at high rates. More than 600 steppe ships are now operating here. They are harvesting wheat by the large group method. Despite the severe drought the rayon's workers have grown quite a good harvest and try to reap grain crops quickly and without losses, to fulfill the outlined plans and to make a worthy contribution to the fulfillment of the country's food program. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 25 Aug 83 p 1/ 11,439

DELAYED GRAIN SOWING--Tselinograd Oblast--Owing to the cold and rainy weather in spring, the sowing of grain crops has been delayed slightly on our sovkhoz, as in all Tselinogradskiy Rayon. Nevertheless, seedlings are good and plants are developing normally. There is hope for a good harvest. Sovkhoz farmers have done a great deal for this. Now we have to thoroughly prepare ourselves for the harvest. It is said that there is no easy reaping campaign. This is indeed so. However, if proper preparations are made for it, it is possible to gather the harvest on time and without losses. The grain growers of our sovkhoz think so and act in accordance with this. /By Kh. Gay, chief engineer of the 40 Let Kazakhstana Sovkhoz/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 10 Jul 83 p 1/ 11,439

COLLECTIVE CONTRACT--Tselinograd--More than 650 harvesting-transport complexes have been established in the oblast. One-fifth of them work according to the collective contract. /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Aug 83 p 3/ 11,439

SELECTIVE HARVESTING--Kustanay Oblast--Farms in the Kustanay area have begun the selective harvesting of ripened stands of early grain crops. The first hundreds of tons of winter rye, peas and oats have arrived at threshing floors. Harvesting is carried out by the swath method and the large-group method of combine operation is used. /By V. Vedenko, KAZAKHSTANSKAYA PRAVDA correspondent/ /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 12 Aug 83 p 1/ 11,439

UNREGULATED LINKS--Aktyubinsk (KazTAG)--The oblast's farms have placed grain seeds in soil on $\frac{1}{2}$ million hectares. Despite the frequent bad weather the rates of work are high. In the oblast last year only 15 unregulated links participated in the sowing campaign, while now, more than 120. The entire wheat field is assigned to strong and durum varieties. Arable land is well dressed with organic fertilizers. /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 11 May 83 p 1/ 11,439

MECHANIZED THRESHING FLOORS--Aktyubinsk Oblast--On farms in the oblast's southern rayons every day the reaping campaign gathers speed and the flow of grain from fields to threshing floors increases. Sovkhozes and kolkhozes in the main granary--northern rayons--will begin harvesting in a few days. By the beginning of mass reaping the oblast's farms have placed more than 7,000 combines and about 3,000 harvesters on the line of readiness. A total of 742 mechanized threshing floors are ready for grain acceptance. /By Yu. Pautov, KAZAKHSTANSKAYA PRAVDA correspondent/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 3 Aug 83 p 1/ 11,439

GRAIN RECEIVING CENTERS--Aktyubinsk, 13 Aug--"Grain in Excess of the Plan"--this is the slogan of grain growers. To store 1.135 million tons of grain in the homeland's bins and to fulfill one and a half annual plans for the sale of grain--this is the obligation of farmers. They are harvesting grain on the second million hectares. A total of 20,000 tons of grain and more arrive at grain receiving centers every day. Farmers in Oktyabrskiy, Karabutakskiy and Mugodzarskiy Rayons have overfulfilled the plans of 3 years for the sale of grain to the state. On the account of the future five-year plan grain arrives at the elevator from farms in other rayons--Khlebodarovskiy, Pervomayskiy, Kenkiyaskiy and Oktyabrskiy sovkhozes. /By V. Drobakhin/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 14 Aug 83 p 1/ 11,439

KIROVETS TRACTORS--Aktyubinsk (KazTAG)--The reputation of the Kirovets tractor can be envied. It is used successfully during all the periods of the year. A total of 190 K-700 with heavy-freight trailers are now used in grain transportation in the oblast. This has made it possible to free almost 2,000 trucks and to save fuel and other resources. The freed trucks are used for the transportation of grain to elevators. "Kirovets tractors are especially effective in collectives on a contract," Ya. Yurman, chief of the oblast administration of agriculture, says. "Combine operators do not wait for the

hopper to be filled, but, reaching the trailer, pour grain: the 'boiler' is common. As a result, empty runs of combines from the trailer and back are reduced by one-half. One Kirovets with four detachable trailers services 12 to 14 units. In the oblast there are more than 200 unregulated collectives and many use the K-700." The use of Kirovets tractors with trailers and the combitrailer and portion methods of grain transportation have made it possible to increase labor productivity. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 30 Aug 83 p 17 11,439

UNREPAIRED COMBINES--Uralsk Oblast--A good harvest has been grown in the Ural area. The mass harvesting of grain crops will begin any day. The areas of grain crops now occupy more than 1.8 million hectares. Thousands of combines and other equipment will go out to fields. Farms, brigades and links face a responsible task, that is, to maximally condense the period of grain harvesting and threshing, to reap in a quality manner and to attain the highest yield on every hectare. As much grain as possible should be delivered in order not only to fulfill the current year's plan, but to also make up for the shortage of grain during the last two droughty summers. Farms in the oblast's southern zone have already begun the selective harvesting of grain crops into piles. Combine operators in Dzhangalinskiy, Urdinskiy and Furmanovskiy Rayons were the first to take out their machines to fields. However, not everything is satisfactory with the restoration of equipment. On the threshold of mass grain harvesting there are many unrepaired combines on kolkhozes and sovkhoses in Burlinskiy, Dzhambeytinskiy and Karatobinskiy Rayons. Hardly more than one-half of the combine pool in a large grain sowing rayon--Chingirilauskiy--has been restored. Engineering and technical services of farms must take urgent measures to take out all harvesting machines to fields. /By B. Kuznetsov, head of a division of the oblast PRIURAL'YE newspaper/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 13 Jul 83 p 17 11,439

HARVESTING-TRANSPORT COMPLEXES--Uralsk Oblast--Grain growers in our rayon have fulfilled the plan for the sale of grain to the state, storing 117,000 tons in bins. Grain delivery is continuing. The people of Zelenovskiy Rayon have undertaken the obligation to sell no less than 13 million poods of grain this year. A good harvest of both winter and spring grain crops has been grown on the rayon's fields. Favorable weather conditions, as well as the higher standard of farming, have had an effect. Field workers have now carried out sowing on schedule and in a quality manner and good seeds have been prepared almost everywhere on farms. Many fertilizers have been applied to fields and weeds, in particular the most vicious of them--wild oats--have been controlled. In the rayon more has now been sown on clean fallow. Its wedge in our rayon is the biggest in the oblast. Here is the result. The earth has responded to this concern with a good harvest. On the average, 26.5 quintals of grain per hectare have been gathered from 27,560 hectares of winter crops. At present the rayon's grain growers are reaping spring crops on a wide front. A total of 112,000 hectares will have to be threshed. More than 40 harvesting-transport complexes operate. /By N. Bolbatov, first secretary of the Zelenovskiy Rayon Committee of the Communist Party of Kazakhstan/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 12 Aug 83 p 17 11,439

GRAIN ELEVATOR--Uralsk Oblast--Machines are going in a continuous flow to the Peremetninskiy elevator--one of the largest in Kazakhstan. All the processes connected with the acceptance, processing and shipment of grain at it have been mechanized and automated. Every day from farms in Zelenovskiy Rayon the enterprise receives 4,000 to 5,000 tons of grain. An efficient organization of the acceptance of machines according to an hourly schedule ensures a smooth flow of grain. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Aug 83 p 1/ 11,439

GRAIN SALE TO STATE--Uralsk Oblast--Harvesting is going on at full speed in the fields of our rayon. Grain yields gladden the farmers. From 20,000 hectares of winter crops the average output of wheat totaled 21 quintals. On the basis of their capabilities our rayon's grain growers have revised the previously adopted obligations for the sale of grain to the state and have set the goal of now fulfilling two annual plans. Thus, we will liquidate the debt and cope with the assignment of 3 years of the five-year plan. Reaping is carried out at high rates everywhere. The rayon has already overfulfilled the annual plan for the sale of grain to the state. /By A. Sabirov, first secretary of the Kamenskiy Rayon Party Committee/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 20 Aug 83 p 1/ 11,439

POURING RAIN--Priuralnyy Rayon, Uralsk Oblast--There are many difficulties now. There was pouring rain at the beginning of the reaping season. In several days there was rainfall of about 1 month's norm. The meeting of the party group of the first brigade decided to maximally utilize the equipment maneuver in order to avoid downtime. The following slogan appeared: "Not a Gram of Losses, not a Minute of Downtime." /By Yu. Deyunov, secretary of the party committee of the Rassvet Kolkhoz/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Aug 83 p 1/ 11,439

MASS GRAIN HARVESTING--Uralsk Oblast--In the Kazakhstan Ural area every day the reaping campaign gathers speed. Grain granaries--the oblast's northern rayons--have embarked on mass harvesting. Farms in Zelenovskiy Rayon are threshing grain crops in an organized manner. For example, winter crops have been mowed here from more than one-half of the areas and yield an average of 23.3 quintals of grain. Barley yields also gladden farmers--20 quintals per hectare. The big grain of the Ural area (after several droughty years) gladdens agricultural workers. The rayon's workers in response to the decisions of the June (1983) Plenum of the CPSU Central Committee are fully resolved to greatly exceed the national economic plan for grain delivery. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 11 Aug 83 p 1/ 11,439

GRAIN DELIVERY TO BINS--Uralsk--In the oblast 50,000 tons of grain are delivered to bins every day. This is twice as much as at the beginning of August. This is the result of introduction of hourly work schedules. In order to maintain the given pace, motor vehicle drivers have tried to condense the work time. All the 3,000 vehicles on the threshing floor-elevator routes are fueled in the evening and undergo a technical inspection during the drivers' rest hours. Specialized detachments for grain transportation have been attached to many grain receiving enterprises, which makes it possible to coordinate and fully utilize the capabilities of collectives of procurement and transport

workers. The biggest effect of such work has been attained in Zelenovskiy Rayon. A total of 4,000 tons of grain are delivered to the local elevator in 24 hours. The rayon's grain growers have already fulfilled the plan for the sale of grain. However, its flow to the homeland's bins is not weakening. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Aug 83 p 17 11,439

NEW LAND DEVELOPMENT--Uralsk, 30 Aug (TASS)--Farmers in Zhanybekskiy Rayon have demonstrated in practice the possibility of sharply increasing grain production in dry steppes on the border with the semidesert. They have completed the fulfillment of increased socialist obligations for 1983 for the sale of grain to the state. About 107,000 tons of grain--more than twice as much as planned--have been stored in the homeland's bins. The skillful development of new land gives a high effect. In 3 years the rayon's grain growers have stored more than 220,000 tons of grain in state bins. These days dozens of sovkhozes and kolkhozes in the Kazakhstan Ural area are reporting on the fulfillment of socialist obligations--a twofold excess over the plan for the sale of grain. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 31 Aug 83 p 17 11,439

EQUIPMENT RECONSTRUCTION--A big harvesting campaign has arrived at the fields of Kustanay Oblast. It will sum up one of the main tasks set by the oblast's party organization before virgin-land grain growers: "Through the collective approach to the highest achievements in labor." Large-scale work has been done by Kustanay grain procurement workers. A total of 20 elevators and 38 grain receiving centers capable of receiving up to 200,000 tons of grain in 24 hours have reported on their full readiness for the harvesting campaign. Technical reconstruction of equipment has been carried out at the sector's enterprises. Units manufactured by Czechoslovakia's specialists have been installed. The application of scientific methods of production planning has been expanded. Public control bodies have been strengthened. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 16 Aug 83 p 17 11,439

GRAIN FLOW TO BINS--Kustanay--The basic flow of grain to bins is now coming from farms in Naurzumskiy, Semlozernyy, Kamyshninskiy, Ordzhonikidzevskiy and Taranovskiy Rayons, which have begun the mass harvesting of grain crops 10 days earlier than usually. About 1,500 motor trains have already been moved to tracks. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 11 Aug 83 p 17 11,439

COMPETITION FOR BEST HARVESTING--Kustanay--The harvesting campaign has arrived at the vastest Kustanay field in Kazakhstan. The oblast's southern rayons have begun the harvesting of grain crops. Thousands of combine and transport crews and technical, domestic and cultural support units have joined the competition for the best harvesting. The oblast's farmers plan to gather the harvest in a short time and without losses. /Text/ /Moscow TRUD in Russian 11 Aug 83 p 17 11,439

EARLY GRAIN RIPENING--Kustanay Oblast--Owing to the hot weather, grain crops have now ripened much earlier than usually and in a uniform manner. The rayon party committee had to take urgent measures to adjust the entire harvesting

conveyer, especially for an efficient utilization of equipment. More than one-third of the 323,000 hectares of grain crops have already been mowed, including 80,000 hectares have been threshed. A total of 1,000 combines, 400 harvesters and 800 motor vehicles operate. By the peak of the harvest the amount of equipment participating in it will increase. It will not be an exaggeration to say that the entire rayon now lives for the harvest and fights for the fulfillment of the high obligation to the homeland. /By K. Turgumbayev, first secretary of the Semiozernyy Rayon Party Committee, Hero of Socialist Labor/ /Excerpt/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 18 Aug 83 p 1/ 11,439

HARVESTING CAMPAIGN--Kustanay Oblast--The harvesting campaign in Kazakhstan's largest granary has expanded at full force. Virgin-land grain growers are engaged in harvesting efficiently and according to schedule day and night. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 27 Aug 83 p 1/ 11,439

STRONG, DURUM WHEAT VARIETIES--Kustanay--The oblast's farmers have joined the mass threshing of wheat. N. Detkin, deputy chief of the oblast agricultural administration, says the following: "We are increasing the production and sale of strong and durum wheat to the state, which is envisaged by the country's food program. The hot and sunny days and the soil protective farming system have contributed to the accumulation of protein and gluten in grain. Procurement workers accept almost every ton of grain as high-quality grain. Harvesting is carried out everywhere by the large group method. Specialists of farms and grain receiving enterprises preliminarily evaluate the strength of wheat in the field and on threshing floors. The automatic instruments developed by the Kazakh Affiliate of the All-Union Scientific Research Institute of Grain Farming help the performance of analysis under field conditions. Hourly schedules of the delivery, drying and processing of wheat and rational routes of motor transport traffic have been developed. The grain growers of Kazakhstan's largest granary plan to dispatch no less than 80 percent of wheat of strong and durum varieties--more than last year--to the homeland's bins." /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 24 Aug 83 p 1/ 11,439

HARVESTING OF LEGUMINOUS CROPS--Kustanay--The oblast's farmers are establishing the basis for an expansion of the leguminous wedge--an important source of protein. They have embarked on the mass harvesting of peas, vetch and chick peas placed on 66,000 hectares. Almost the entire grown harvest will be utilized for the establishment of the seed stock. "Next year in accordance with the decision of the council of the oblast agroindustrial association the sowings of leguminous crops both in pure form and in a mixture with cereal crops are to be expanded more than twofold," N. Detkin, deputy chief of the oblast agricultural administration, says. "This will make it possible to fully balance animal feeding rations in protein." Farms have available regionalized intensive-type varieties. Leguminous crops are placed after the best predecessors on arable land well dressed with mineral fertilizers. This helps to obtain, on the average, more than 20 quintals of peas and up to 18 quintals of vetch. The harvesting and threshing of leguminous crops are carried out in an organized way and without losses. /Text/ /Moscow GIDOK in Russian 4 Aug 83 p 1/ 11,439

CSO: 1824/574

LIVESTOCK FEED PROCUREMENT

BELORUSSIAN PROGRAM FOR INCREASING FEED PRODUCTION

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 8, Aug 83 pp 37-39

[Article by G. Svirko, main administration chief, Belorussian SSR Ministry of Agriculture: "The Organization of Feed Production in Belorussia"]

[Text] Animal husbandry is the leading sector of the republic's agriculture. It accounts for more than one-half of all gross output and three-fourths of all commercial output of agriculture. Among the many problems in the development of animal husbandry the most acute is that of increasing feed production. At many farms there is a disproportion between production volumes and the growth of livestock herds. It is therefore an urgent problem to radically improve feed production and the satisfaction of demand for feed by public animal husbandry and by livestock and poultry privately owned by citizens.

Because of this the Belorussian SSR Ministry of Agriculture and its local organs, jointly with scientific research institutes have developed a comprehensive program for the growth of feed production during 1981-1985 which foresees the attainment of the planned level of animal products during this period. The program includes: the basic directions for the development of the animal husbandry sector; a more improved structure of feed consumption and demand by type and category of farm; ways of increasing the efficiency of field and meadow feed production; improvements in technologies for harvesting, storing and processing and increasing the nutritive value of feeds; measures for creating the sector's material-technical base and transforming it to an industrial system; organizational and technical parameters of feed production as a specialized sector of agriculture.

To implement this program, the republic's farms have, in addition to field feed production, given more attention to improving meadows and pastures. During 1981-1982 one-third of their entire area was planted and replanted with grass. Cultivated meadows now account for about 70 percent of the republic's entire natural hayfield area. Compared to 1980, by 1982 the area planted to corn for silage and green fodder had increased 1.4 fold and there had also been expansions in the plantings of second crop, undersown and after harvest feed crops. A system of organizational-technological measures has been carried out to improve the productivity of meadows and the yield of feed crops. In spite of the unfavorable weather conditions, which seriously damaged the planting of grains, potatoes, fodder roots, corn and other crops, this work resulted in successful fulfillment of the hay and silage procurement plans.

At present there are now 258 farms specialized in beef production operating in the republic, 146 for raising heifers and 266 of these farms are performing production functions on the basis of interfarm cooperation.

Constant attention is given to problems of supplying animal husbandry complexes with feeds. There are two directions to these problems' solution. The first is the intensification of feed production specialization at those farms which are engaged in animal product production on the basis of interfarm specialization and which have animal husbandry complexes located on their territories. Such farms are released from the production of all commercial plant raising products for which cooperating farms have state procurement plans. The advisability of this direction is supported by the experience of many kolkhozes and sovkhozes, at which plant raising has been completely subordinated to the creation of a feed base with a unified "field to farm" cycle. The introduction of efficient cropping structures for feed crops and progressive technology for their growing makes it possible for such farms to obtain, in any year, up to 35 and more quintals per hectare of fodder units from agricultural land and more than 40 quintals per hectare of arable land. This will make it possible to supply feeds to complexes for raising and fattening 5,000 and 10,000 cattle annually. For example, in 1982 the Kolkhoz imeni Kirov in Shklovskiy Rayon, Mogilev Oblast and the Kolkhoz imeni Uritskiy, Gomel'skiy Rayon, Gomel Oblast obtained almost 40 quintals of fodder units per hectare of agricultural land, while the Mir Sovkhoz in Baranovichskiy Rayon, Brest Oblast obtained more than 50 quintals.

The second direction in the development of feed production under conditions of interfarm specialization is the effective use of areas with peat-boggy soil, river floodplains, reclaimed peat cutting areas and other poorly productive lands at a large number of farms. After land reclamation and improvement work has been conducted such lands are combined into larger tracts in order to create interfarm enterprises for feed production.

Several farms unite their efforts for the effective use of such lands. In concentrating their efforts they guarantee the more complete supply of interfarm enterprises with the newest means of mechanization, the introduction of modern technology for feed harvesting and processing, the improvement of its quality and the reduction of material and labor outlays.

Interfarm enterprises for feed production are highly mechanized formations. They have sheds for the forced draft ventilation drying of hay, facilities for grass meal and mixed feed production, warehouses for storing grain forage and finished products and other facilities. These enterprises are equipped with the machinery essential for feed harvesting and processing. Their tasks include the harvest of hay and haylage, the production of grass and coniferous meal and the preparation of feed mixes from straw, mixed feeds, grass meal and other additives.

It should be noted that in a short interval the majority of interfarm enterprises have doubled and tripled the productivity of feed production lands. The "Dnepr" enterprise in Bykovskiy Rayon, Mogilev Oblast was created with the resources of 11 farms in the rayon, combining for this purpose hay land with a total area of 2,000 hectares. Prior to this cooperation farms gathered 50 - 60 quintals of green mass per hectare of such land, in 1982 the enterprise gathered 180 quintals per hectare. It harvested 2,300 tons of hay, 9,000 of haylage, 6,300 of silage and 700 tons of grass meal.

Many feed production enterprises are mainly producers of grass meal. For example, in 1982 the "Pripyat'" enterprise, Mozyrskiy Rayon, Gomel Oblast produced 3,600 tons, the "Strelichevo", Khoyniskiy Rayon in the same oblast produced 2,000 tons, the "Domanovichi, Soligorskiy Rayon, Minsk Oblast and the "Vysokoborskoye", Krasnopol'skiy Rayon, Mogilev Oblast produced 1,500 tons each.

The functioning of interfarm enterprises for feed production has revealed the objective necessity of creating large animal husbandry complexes near them in order to ensure the more rational use of feed and to reduce transport costs. To do this, enterprises such as the "Dnepr" in Bykovskiy Rayon, Mogilev Oblast and a number of others have already built and are operating interfarm complexes for raising and feeding 5,000 head of cattle each. These enterprises not only produce feed on an interfarm basis, but also beef. Interfarm enterprises are being created and will be created on this basis.

There are, undoubtedly, still shortcomings and difficulties in the development of previously unused fodder lands and in the work of feed production enterprises. Not all enterprises are getting complete returns. Neither have all attained planned capacity or been converted to the constant use of fodder land, something which hinders work. There are still difficulties in supplying them with highly productive harvest equipment. All the same, the economic results of feed producing enterprises indicates the advisability of this form of cooperation.

In 1982 interfarm harvest work groups proved themselves well during haylage and silage harvests on kolkhozes and sovkhoses. They were staffed with experienced mechanics and machine operators, with consideration given to the special equipment and transportation available at participating farms. The groups performed work in accordance with a schedule coordinated with the farm managers.

The concentration of equipment in interfarm harvest groups creates conditions for its operational technical servicing, better work organization, the reduction of equipment idle time and the improvement of labor productivity. The main thing is that the technological process rules for feed harvest are observed, as the time required to fill silo capacity with haylage and silage is reduced to 1 - 4 days, considerably improving feed quality.

Improvements in the efficiency of feed production depend to a great extent upon strengthening the sector's material-technical base, applying sufficient fertilizers to feed crops on arable land, natural hayfields and pastures, on the observation of agronomic techniques for raising feed crops and the proper care of feed lands. The efforts of managers and specialists at agricultural organs, kolkhozes, sovkhoses, interfarm feed producing enterprises and of all agricultural workers in the republic are directed towards the implementation of these measures.

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LIVESTOCK FEED PROCUREMENT

MIXED FEED SUPPLIED BY ENTERPRISES DEFICIENT IN QUALITY

Moscow SEL'SKAYA ZHIZN' in Russian 1 Oct 83 p 2

/Article by N. Skorolupov: "Poor Quality Feed"/

/Text/ Regardless of how diligently the workers at the Vilnyus Broiler Factory strive to increase meat production, while economizing in the use of feed, no specific results are being realized. The Vevis Mixed Feed Plant supplied products which were lacking in the more important amino acids, fats and other nutrients. As a result, the factory expended hundreds of tons of mixed feed in excess of the norm.

Recalling days past, Emilijus Yonovich Verkauskas, the chief of the Main Administration for the mixed feed industry of the USSR Ministry of Procurements referred to the Vilnyus Broiler Factory as being one of the best. Two hundred and seventy eight feed units are expended here per quintal of weight increase -- almost 100 less than the plan, with the weight increases being higher than those projected and a high preservation of young chicks being maintained.

"And one notable feature" stated the chief of the main administration in a pleased manner, "is the fact that the same people are operating the same equipment at the poultry factory and the mixed feed plant. But their attitude towards the work has changed. How was it earlier? The plant would ship the amount of mixed feed called for in the plan and thereafter it would consider its mission accomplished. And with regard to the return from this feed -- they maintained that this was not their concern. Thus the poultry raisers were somewhat puzzled and even planned to build a feed preparation shop for processing the mixed feed. Today it has strong business-like relationships with the plant. It turned out that the poultry factory did not require such a shop. The leaders and specialists of the enterprises coordinate in advance their delivery schedules for the mixed feed. At the plant they are aware of the factory's requirements for each day of the following month. The mixed feed producers are just as interested as the poultry raisers in ensuring that each kilogram of forage returns a worthy increase in meat yield.

It is gratifying to note that the work is being carried out in this manner not only in Lithuania. The Industrial'nyy Fattening Complex in Krasnodar Kray is obtaining almost 700 grams of weight increase in its hogs daily with only

minimal expenditures of forage. The weight of young bulls at the Baranovich complex in Belorussia is increasing at the rate of more than 1 kilogram daily. Similar high results are being achieved by livestock breeders and poultry raisers on many specialized farms in Russia and the Ukraine, Moldavia and the republics of Central Asia -- everywhere where the collectives of mixed feed enterprises are conscientiously carrying out the orders of the livestock breeders on schedule.

The introduction of an industrial technology into animal husbandry operations has required improvements in mixed feed production. Over the course of recent five-year plans, its capabilities have increased by several times.

Approximately one half of the plants are equipped with automatic lines for dosing and mixing and units for the granulation of feed. Many enterprises have equipment for adding liquid components to the mixed feed. The production of protein-vitamin additives, premixes, carbamide concentrate and special mixed feed for large-scale animal husbandry complexes has been mastered. The production of granulated mixed feed for poultry has increased considerably. In short, a modern mixed feed industry has been created. Its workers are capable of carrying out the task planned for the current five-year plan: increasing the production of forage at state enterprises by 13-15 percent.

And yet the chief concerns include: thrifty and highly productive use of existing capabilities, introducing the achievements of science and leading experience, further perfecting the production technology and implementing improvements in the working conditions. For example, the capabilities of existing plants were increased only recently by 13 million tons of mixed feed annually as a result of modernization and technical re-equipping.

But the state enterprises of Minzag [Ministry of Procurements] are providing mixed feed mainly for poultry factories and large-scale fattening complexes. The conventional livestock farms of kolkhozes and sovkhoses which, as is well known, furnish a large portion of the milk and meat and other products, are being supplied with this valuable product by inter-farm mixed feed plants. There are 800 such enterprises in the country, all built using kolkhoz and sovkhos resources, including approximately 400 in the Ukraine. And they are producing millions of tons of products.

In short, this young and rapidly developing branch -- the mixed feed industry -- now occupies a worthy place in the country's agroindustrial complex. Nevertheless, owing to a lack of balance in the feed, the kolkhozes and sovkhoses are expending large quantities of grain in excess of the norm. High quality plant produced mixed feed is making it possible to reduce these losses sharply and at the same time to increase the production of milk and meat. Unfortunately, the state and inter-farm enterprises are still processing less than half of the forage grain. The remainder is being consumed by the livestock in the form of simple grain mixtures.

Tens of millions of tons of forage are disappearing in this manner. And in order to ensure that each kilogram used produces a maximum return, only a simple requirement has to be met: the concentrates should be enriched with various additives in the interest of balancing the feed in all respects. But

the problem here is that more than one half of the mixed feed being produced in the country and supplied by Minzag enterprises does not meet the standard requirements, particularly with regard to protein content.

"Even in protein-vitamin additives" commented L.S. Stefanyuk, the chief of the Main Administration for the Production of Mixed Feed and Feed Additives of the USSR Ministry of Agriculture, "it is one third less than the amount prescribed for protein components." The BVD /protein-vitamin additives/ in which the protein of animal and plant origin has been replaced by urea is of low quality in particular. Even the most exemplary enterprise cannot prepare high quality mixed feed on such an unreliable basis.

This explains why the leaders of USSR Ptitseprom /Poultry Raising Industry Administration/ petitioned Gosplan to allocate funds for the planning and construction at poultry factories of mixed feed preparation shops for the processing of mixed feed produced at enterprises of Minzag. However, many poultry factories and large-scale complexes long ago acquired such auxiliary departments. At the Mogilev Broiler Factory, for example, 325,000 rubles were spent last year for the processing of mixed feed. Its leaders and specialists conducted an exhaustive search for the missing components. Finally they succeeded in obtaining 4,000 quintals of beat and bone meal, 1,289 quintals of vitamin grass meal, almost 2,000 quintals of cod liver oil, vitamins, yeasts, dry milk and other nutrients.

The leaders and specialists of many kolkhozes and sovkhoses in Donetsk Oblast often find themselves in the same situation as suppliers. Moreover, here, just as in other oblasts of the Ukraine, mixed feed production is developing rapidly. Inter-farm enterprises for the production of mixed feed have been built in almost every rayon. To be more exact, they must produce such feed.

Actually, these enterprises are still not justifying the hopes of the livestock breeders. The kolkhozes and sovkhoses in Marinskiy Rayon built a completely modern inter-farm mixed feed plant. The enterprise cannot complain regarding a shortage of protein-vitamin, mineral and other additives. There are many who are envious of the equipment installed here. Nevertheless, the plant is not coping with the mixed feed production plan and the quality of the feed cannot withstand criticism. It turns out that there is a shortage of raw materials, particularly forage grain. Actually the leaders of some farms are striving to leave as much forage grain as possible in their kolkhoz grain bins. Thus the Kolkhoz imeni Michurin shipped only 69 tons of grain to an inter-farm mixed feed plant. This is nine percent of the amount called for in the contract. Somewhat more forage was shipped for processing by the Kolkhozes Rossiya and Sovetskaya Ukraina. The efforts of the chief specialists and the plant director aimed at convincing the farm leaders regarding the high effectiveness of the mixed feed and the need for eventually fulfilling the contractual obligations proved to be in vain. But everything was to no purpose -- even intervention by workers attached to the rayon executive committee and the agricultural administration failed to move the problem from dead center.

At this point the specialists attached to the oblast's agricultural administration and the leaders of the plant turned for assistance to the

Marinskiy Rayon Party Committee and yet even here they failed to obtain the desired support.

"Are you aware of what is lowering the interest of the livestock breeders in mixed feed?" asked the chairman of the Kolkhoz imeni Timiryazev in Marinskiy Rayon, "Yes, it is its low quality for the most part. Why send vehicles loaded with grain to a plant if you know that you will receive back the same mixture of forage grain, just slightly enriched with protein-vitamin additives? Neither the inter-farm nor state plants can guarantee that their mixed feed will produce high weight increases."

Herein lies the essence of the problem. A discussion has been underway for many years concerning the fact that industry is obligated to produce mixed feed of a guaranteed quality and that the price for such feed must reflect the true value of the products.

In all fairness it should be stated that the low quality in mixed feed is caused not only by a lack of zealousness on the part of Minzag workers, although beyond any doubt they could perform a greater amount of work. There is a shortage of raw materials and especially protein raw materials. And the problem is further aggravated. Whereas in 1975 the enterprises of Minzag received 66.9 percent of the required amount of protein, by the end of this current five-year plan this figure will have dropped to only 54.5 percent according to preliminary computations. This deficit can be compensated by increasing the purchases of sunflowers, soybeans, flax and oil-bearing and pulse crops. But during the last five-year plan, for example, the plan for purchasing pulse crops was fulfilled by only 63.3 percent. It is hardly necessary to mention that the kolkhozes and sovkhoses retain for themselves approximately 85 percent of the pulse crop grain obtained. They systematically are not fulfilling their plans for the sale of vitamin grass meal. From year to year the procurements of oil-seed meal, nutrient yeasts, meat and bone meal and other types of raw materials are not being carried out by Minpishcheprom, Glavmikrobioprom and Minmyasomolprom. At the same time, large quantities of additives, including protein additives, are being added to the mixed feed by the poultry factories and the complexes themselves.

The time has come to restore order to the use of deficit raw materials. To place a stamp of approval on the production of mixed feed having a low protein content -- is equivalent to encouraging violations of delivery discipline and in the final analysis -- mismanagement.

7026

CSO: 1824/40

LIVESTOCK FEED PROCUREMENT

SOYBEAN CULTIVATION FOR FEED PROTEIN IN BELORUSSIA

Minsk SEL'SKAYA GAZETA in Russian 30 Sep 83 p 2

[Article by O. Davydenko, candidate of biological sciences: "Soybeans for Belorussia"]

[Text] Soybeans are a crop with many properties which cannot but be surprising. In terms of protein content, it has practically no equals among agricultural crops. In the majority of strains, the content of this most important substance ranges from 35 to 50 percent. And in terms of the composition of essential amino acids, soy protein is as good as protein of animal origin. Moreover, soybeans contain 20-25 percent high-quality vegetable oil and they are rich in phosphatides, vitamins and other useful substances. Even soybean straw, or the green mass from this plant, can compete with grain of the main crops in terms of nutritive value.

All these properties of soybeans make them a good food for man and an excellent component in the ration of livestock. This is especially important because of the protein shortage. For today agricultural production on the planet has failed to produce almost half of the protein necessary for man's efficient nutrition. It is no accident that the demand for soybeans on the world market is increasing. In literally a couple of decades the countries which have produced this crop have become exporters of it. Among these countries are the United States, Bulgaria and Canada.

Naturally, in our republic too, soybeans could be a good component for feed production, especially when changing animal husbandry over to an industrial basis. Yet, there is the opinion that this crop is too capricious. This opinion is not completely without justification. Indeed, the majority of strains of soybeans that are raised in the south of the European part of the country, in Amur Oblast and Maritime and Khabarovsk Krays, are not suitable for cultivation on the territory of our republic. The main reason is not that this plant loves heat, but the way it reacts to the length of the day. Under the conditions of the long summer days of the northern areas, the growing period of the majority of the strains is prolonged. This leads to a situation where the plants do not manage to ripen. Nonetheless, recently in our country and abroad, forms of soybeans have been created which react weakly to the increased duration of the daylight period. This crop is now being successfully raised even

in such a northern country as Sweeden. The unsuccessful attempts to introduce soybeans in the Belorussian SSR in the 1920's and 1960's are also explained by the fact that during these years, they had still not created forms that were capable of moving to the more northern areas. Now, since they have appeared, there is a real possibility of cultivating soybeans in our republic.

One of the pioneers in this area was the Gomel Oblast agricultural experimental station in Dovsk. This work was headed by the senior scientific associate Anna Zakharovna Parkhomovich. Beginning in 1976, she and her colleagues have been conducting painstaking work. From the initial collection of 96 strains obtained from the country's gene bank--the All-Union Institute of Crop Growing--they selected five of the most suitable for our conditions, one of which, the Severnaya-2 strain from domestic selection, turned out to be the most productive. The productivity of its grain amounted to 17-20 quintals per hectare, and the seeds contain up to 40 percent protein and up to 20 percent oil. These yields are obtained in Dovsk not only on small plots, but also on sections that are several hectares in size. At the experimental station they also raise other pulse crops, but all of them, with the exception of beans, lag considerably behind soybeans in terms of productivity, and in terms of the yield of protein per hectare, soybeans remain unsurpassed. Workers of the station note other merits of it: it does not react negatively to brief summer draughts or spring and autumn frosts, and it is responsive to the application of mineral and organic fertilizers. A large amount of work has also been done at the station to create technology for cultivating soybeans. The optimal norms for planting the seeds, agrotechnical devices and the effectiveness of chemical weeding have been revealed. In a word, a rich amount of experience has been accumulated which, in our opinion, can and should be used by the kolkhozes and sovkhoses of the republic. But, unfortunately, there are not so many enthusiasts who would try to raise this crop on an industrial scale. Possibly they are impeded by the lack of skills for raising it or simply an ignorance of the merits of soybeans. But this remarkable plant could increase the milk yield and accelerate the weight gain of cattle and poultry. Moreover, one cannot forget about the fact that soybeans are a good predecessor for other agricultural crops. Like other pulse crops, they enrich the soil with nitrogen.

Although even now, thanks to the scientists from the Gomel Oblast agricultural experimental station, forms of soybeans have been found which are ready for utilization, it is necessary to have further work in this area. The experience that has been accumulated by selection workers working with various agricultural crops suggests the best path--conducting selection of soybeans under local conditions. There is no doubt that in this case it will be possible to create strains of soybeans whose productivity is considerably greater than twenty quintals per hectare. And in this respect soybeans are good material for the selection worker.

Man has been raising soybeans for no less than 6000 years, and during that time, naturally, a surprising genetic diversity of forms has been created. Yet in our republic we do not have a single institution that handles selection of this most important food crop, although selection work is being conducted on a large scale for other pulse crops.

Belorussian geneticists can render help in creating strains of soybeans that are adapted to the soil and climate conditions of the Belorussian SSR. For genetics is a science of heredity and is the foundation of selection work. The first steps in this direction were taken by young scientists of the Institute of Genetics and Cytology of the Belorussian SSR Academy of Sciences. They are doing scientific research work on a voluntary basis during their free time. They are actively assisted by young geneticists and selection workers of the Republic Station of Young Naturalists. Actually, the research work on genetics and selection of soybeans originated three years ago as experimental work for school children. During that time many members of circles became students of the biology department of the Belorussian State University imeni V. I. Lenin, but their interest in selection and genetics work with this crop did not cease. Although the present research work is only just beginning, even now the first promising results have been achieved. They have established intervarietal and intravarietal genetic diversity of soybeans in terms of the main components of productivity, and this means that with the help of selection it is possible to create more productive forms of the plants. They are studying the effectiveness of various methods of selection and planning the optimal selection of parent pairs for crossing in order to obtain intervarietal hybrids. Will this undertaking grow into a serious large project, will the dreams of the young scientists come true, will highly productive Belorussian strains of soybeans be created--time will tell. But in order for soybeans to appear in the republic not as a chance guest, but as a legitimate crop which is capable of intensifying agricultural production, it is necessary to begin selection and genetics research right now. Time is very important in this matter.

11/72

OSO: 1824/28

LIVESTOCK FEED PROCUREMENT

LONG-TERM STORAGE OF FEED DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 19 Aug 83 p 2

[Article by K. Solntsev, academician at the All-Union Academy of Agricultural Sciences imeni Lenin: "Feed Storage for Longer Periods"]

[Text] Favorable conditions now prevail in many regions of our country for greater supplies of feed. Grasses, corn, root and other feed crops are doing well just about everywhere. There is the possibility where we can procure enough feed this year not only to satisfy livestock demands for the winter period but also to have significant transitional supplies. This is what many of the better farms are now striving for. Reserves of coarse and succulent feeds will create a firm base for the steady and highly productive work of livestock farms.

In the past there were years when feed supplies on many kolkhozes and sov-khozes apparently exceeded their planned requirements for the winter quartering period. Yet during the winter period there were frequent shortages of feed.

What's happening here, especially when the fact is that not every preservation process will ensure feed quality over a long period? Work on preserving the feed is often done without consideration of the fact that the transitional feed supply must be stored a long time.

In addition, the quality of hay that is stored for long periods in stacks and ricks outdoors deteriorates very quickly. After a year and a half of such storage, that is towards the beginning of the following winter, under an active combination of solar radiation, rain and wind, the hay spoils, "ages", loses its natural color, grows coarse and really becomes of little use for animal feed.

Many farms in Latvia are dealing quite successfully with the problems of long-term hay storage. They are building enclosed storage facilities not only for the present year's supply of hay but also for the transitional reserves. Hay to be stored over a long period for the next winter is compressed, and bales in full stacks are stored in hay barns or in the lofts of livestock quarters. This hay is dried to an 18-22 percent moisture content for better preservation. When very dry hay is compressed there are losses because the plants are ground up; hay that is too moist, without additional drying by active ventilation, will lose its quality and deteriorate.

Grass cubes and pellets are also stored in dry areas with a minimal amount of nutritional losses.

Straw will provide a dependable source for transitional feed supplies. But to preserve its nutritional elements it must be compressed very well; bales in full stacks must be placed in closed storage facilities. Hay can also be processed into cubes and pellets. But its moisture content must be closely observed. Only hay that has been very carefully dried, with neither mold, moldy odor or spoilage by fungus, can be stored for a long time. Unfortunately there are still many farms that burn the hay in good years, while in poor years they bring in hay from other rayons and oblasts, sometimes from hundreds of kilometers away.

When technical requirements are carefully observed, haylage in tiled troughs with hermetical walls that are covered by a dark lining can be stored with quality retention more than one season; this may also lead to the formation of haylage reserves.

Proper silage procedures will also ensure preservation of nutritional elements in green feeds from legumes, corn, sunflowers and sorghum. Lactic acid, as is well known, remains the main preservative in the silage process. Establishing the proper conditions for its formation and preservation in silage bulk, 60 percent or more of the total amount of uncombined acid, also means having the necessary conditions for long-term feed storage. And just what is called for?

First of all ensilaged feed should have a pH of 3.9-4.2 and a moisture content of 60-65 percent; there must also be a complete removal of air. This will be attained by rigid adherence to the technical demands necessary for feed ensilage.

Much valuable experience for long-term storage of silage and haylage is to be found on farms in Estonia and Latvia; here are storage facilities where supplies of these feeds can be kept for more than a year and a half.

The best storage facilities for silage and haylage are reinforced concrete trenches with strong walls and bottoms. The trenches (with sides extending 0.4-0.6 meters above the ground) are set in the ground, thus allowing for an even, not very high temperature in the silage mass even during the summer. These trenches are covered with dark sheets which are in turn covered with at least 20 cm of dirt. Silage leavens from lactic acid bacteria make the lactic acid production very steady in ensilaged feed. Long-term storage of silage in beds or in barrows cannot be allowed.

Chemical preservation of green feeds will guarantee the optimal technical conditions for a two-year storage. If farms do not have enough of these compounds, then they should be used on the top meter and a half (at least) of the silage or haylage mass being processed. Even in a well-enclosed area the quality of the upper layer is usually poorer than the lower layer. The following are considered good preserving materials for green feeds:

pyrosulfite sodium, benzoic, propionic and formic acid, and also a mixture of organic acids.

Finer crushing of the raw material is an effective way of improving the quality of feed for two-year storage. Cuts not more than 1-2 cm will allow for the rapid removal of air from green mass and better compression. This also makes the mechanization of loading and unloading a bit easier as well as the feeding to animals.

A better supply of powerful machinery for the preparation of dehydrated feeds, more factories and assembly lines for their processing--this will permit such raw material to be drawn into the feed supply that, in the past as a rule, wasn't used extensively. We have in mind the preparation of meal from beet and vegetable leaves, sunflower crowns, corn stalks and others. After processing they can be stored for a long time and used as additives in feed mixtures.

Of course, when feeds are prepared for long-term storage it is necessary to carefully observe every requirement in the preserving process. The slightest deviation from recommended parameters could serve to negate the labor of many people and of complete collectives.

Particular attention must be given to feeds for long-term use. Where feeds are to be stored for a long time the facilities must be systematically checked and rid of all possible violations of storage procedures. All cracks in coverings must be sealed up ahead of time, while water seepage into storage areas must be shut off, etc. Feeds that have been stored for a long time must be probed for analysis before they are used; the feed cannot be given to animals until the results of the analysis are received.

The establishment of feed reserves on farms will enable work to proceed on fulfilling the tasks for increasing the production of animal products with a high degree of certainty.

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LIVESTOCK

INTEGRATION OF LIVESTOCK PRODUCTION, PROCESSING OPERATIONS DISCUSSED

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 4, Apr 83 pp 48-52

[Article by M. Panov, candidate of economic sciences (Sumy): "On Integration of the Meat Industry With Agriculture"]

[Text: The goal of the USSR Food Program which was considered and approved by the May (1982) Plenum of the CPSU Central Committee is to provide for reliable supply of all kinds of food products for our country's population within the shortest possible periods of time.

Now as never before the production of food products depends not only on agriculture, but also on a number of branches of industry. Only on the basis of intercoordinated development of all branches of the agro-industrial complex is it possible to further advance agriculture and to solve the food problem.

Under the conditions of the industrialization of agricultural production that is taking place, when the entire chain of production is being technically re-equipped, the development of the most efficient forms of ties between agriculture and industry which processes its products becomes extremely crucial. Thus the processing of agricultural raw material plays no less important a role than does the production of this raw material.

Integrating forms of economic, organizational and technical ties between agriculture and the branches of industry that process its products are multifaceted and are determined by the specific peculiarities of each of these branches. So far, agro-industrial integration has been developed most in the production and processing of perishables and less transportable kinds of agricultural products (vegetables, fruits and berries). No small amount of experience in this has been accumulated in Moldavia, the Ukraine, the Northern Caucasus, Uzbekistan and other southern regions of the country. Although the organizational foundations of various forms of agro-industrial ties are far from being fully developed here either, and questions of their future development are still not adequately studied, the main thing is still clear: enterprises that process perishable products should be as close as possible to the places where they are produced.

Integration in the area of the production and processing of vegetables, fruits and berries, and also its social consequences are sufficiently clear even now.

But how should integration processes take place in animal husbandry, particularly the integration of the meat industry with agriculture? How (and, in general, is it possible) does one "close the circle" of the production and processing of animal husbandry products (beef and pork) ending with the final product? In poultry raising the task of "completing the circle" is carried out easily--through the construction of large poultry farms that include shops for slaughtering and processing the meat, sorting and packaging the eggs and so forth.

In practice, intensive development of animal husbandry and its changeover to an industrial basis force the enterprises of this branch to look for "technological ties" with enterprises that process its products. Here, unfortunately, they do not always take into account the possible economic and, especially important, social consequences. And the recommendations of scientists regarding this are not always justified. Thus, for example, S. Shnitser, N. Kondratyuk and S. Krasnov, considering the forms of interrelations between enterprises of the meat industry and animal husbandry farms, attempt to prove the need to changeover to universal construction of meat combines with capacities of 50-100 tons of meat per shift and even larger ones (150-200 tons).^{*} Even previously, in 1978, the All-Union Scientific Research Institute of the Meat Industry gave recommendations for the development of concentration and specialization of production in the meat industry, where they also pointed out that the most effective thing to do in the next few years is to construct meat combines of the same capacity.^{**} The Ukrainian state institute for planning enterprises of the meat and dairy industry received the assignment, and in 1979 changed over to planning meat combines with a capacity of 100 tons of meat per shift.

Concentration of production in the meat industry is rated by the authors as the most important source of increasing the economic effectiveness of work in this branch. They justify the economic effectiveness of the construction of such large enterprises, first, by the reduction of the proportional capital investments that will occur in this case, and also by the better utilization of equipment and production capacities, the

^{*}See: VOPROSY EKONOMIKI, No 11, 1979, p 130.

^{**}See: "Rekomendatsii po razvitiyu kontsentratsii i spetsializatsii proizvodstva v myasnoy promyshlennosti" [Recommendations for the Development of Concentration and Specialization of Production in the Meat Industry], Moscow, 1978.

relative reduction of investments in the construction of auxiliary shops and so forth, and the increased labor productivity in meat combines which is related to this. But these indicators characterize only the phase of processing the meat, and not the entire cycle of its production and processing, that is, they do not take into account losses of meat and fat that have already been raised when they are delivered from the raw material zones to the meat combines, nor do they take into account transportation expenditures.

In our opinion, one cannot agree with those economists who speak of the increased transportation expenditures because of the increased distances for the delivery of livestock and about losses of live weight as secondary factors that are less significant in reducing the economic effectiveness of large meat combines.* They seem to forget about the well-known truth which has gone into the textbooks, that with an increase in the capacity of meat combine from 26 to 52 tons per shift, there is also an increase in the shipments of livestock by rail transportation (over a distance of 50 kilometers), and the expenditures on transportation exceed the savings from concentration of production by 10 percent.**

Concentration of production in general is not limitless, since excessive consolidation of enterprises entails serious shortcomings. The meat industry is among those branches whose enterprises must be distributed throughout the territory with an orientation toward the raw material and the consumer. Here one should take into account that the transportation of raw material is less effective than of the final product. Thus in a two-axle car one can load eight-nine times as much meat and 2.5-3 times as much cooled meat as one can cattle, and the cost of their delivery on the railroad (over any distance) is one-third and one-half the amount respectively.***

Thus when selecting the location for the construction of meat combines, the orientation toward the raw material is decisive. This will provide for bringing industry closer to the sources of the raw material and for eliminating inefficient long-distance shipments. But here one should speak not only and not so much about the increased expenditures on the delivery of the animals as about losses of their live weight en route.

*See: VOPROSY EKONOMIKI, No 6, 1979, p 85.

**See: "Politicheskaya ekonomiya sotsializma" [The Political Economy of Socialism], Moscow, "Ekonomika", 1971, p 281.

***See: "Razmeshcheniye proizvodstva prodovol'stvennykh tovarov v SSSR" [The Distribution of the Production of Foodstuffs in the USSR], Kiev, "Visha shkola", 1979, pp 28-29.

It is precisely in this stage in the passage of the agricultural products to the consumers, that is, during the process of delivering the animals from the farms to the meat combines, that one loses a significant quantity of already raised meat and fat, which amounts to thousands of tons. Losses of weight gain of animals en route from the farm to the meat combine are not taken into account by anybody. This does not bother the processors since the livestock are received not directly from the kolkhozes and sovkhozes, but at the meat combines, in terms of slaughtered weight. And the farms can receive monetary compensation only for keeping the livestock too long at the meat combines, but the meat that is lost because of this is not reimbursed. Strange as it may be, the kolkhozes and sovkhozes which keep accounts according to the so-called system of advanced coefficients which has been discussed in the press,* do not always lose from this system.

Losses of meat and fat during the delivery of animals to the meat combines are not at all trivial. According to the data of certain economists, the shipment of livestock over a distance of 100-150 kilometers and their waiting in line to be slaughtered lead to losses of no less than ten-fifteen percent of their weight.** This amounts to immense figures in the country as a whole.

All this cannot but be taken into account when determining the economic effectiveness of large meat combines. One cannot be guided here only by the "proportional capital investments." At the November (1981) Plenum of the CPSU Central Committee, clear negative consequences of excessive concentration of processing enterprises of the meat and dairy industry were noted: "It is hardly justified to construct only large enterprises for processing milk, slaughtering cattle and processing meat. Frequently it is necessary to ship livestock and milk here over hundreds of kilometers. This also leads to losses and unproductive expenditures. They can and must be sharply reduced."

For such countries as the United States and Canada, accounting for the losses of already raised meat of animals when they are shipped over long distances has come to have decisive significance when locating meat combines. This has turned out to be a "trifle" which has involved decentralization of the meat industry. Enterprises for slaughtering animals and poultry and for processing animal husbandry products have been brought closer to the places where they are produced, and the meat combines and

*See: "Stumbling Block," PRAVDA, 20 February 1980.

**See: Tikhonov, V. "For the Sake of the Final Goal," LITERATURNAYA GAZETA, No 10, 1980.

and refrigeration facilities have been brought closer to the fattening zones, which has considerably reduced the distance of shipments of livestock in these countries. The famous Chicago slaughterhouses began to be moved to the south of the country as early as the 1970's--to places where livestock are raised and closer to the feed base.* Instead of large slaughterhouses located in large cities of the United States, a broad network of modern meat combines has appeared, which are as close as possible to the places where livestock are concentrated. Now the slaughterhouses with the productivity of 1000 head** per shift are located four kilometers from the fattening areas, and not 100-150 kilometers,*** as is envisioned by the plans for the construction of new and the renovation of existing combines in our country.

In the United States the concentration of the meat industry with a simultaneous elimination of large slaughterhouses has turned out to be economically expedient. They have begun to ship beef and prepared meat products to the places where the meat is consumed (cities, industrial centers) instead of live cattle. This reorientation of the meat industry makes it possible to leave all wastes at the place of processing, and some of them are processed into full-value feeds at the same meat combines (bone and blood meal) and are again fed as supplements to the basic feeds. But the main thing here is that losses of meat and fat en route were eliminated, the volume of shipments decreased and transportation expenditures were reduced. It turned out to be especially advantageous to transport refrigerated meat to the place of consumption in refrigerated cars.

Creative application in our country of the trends in the development of the meat industry that have been noted above will require expansion of the fleet of refrigerated cars, without which it is impossible to reduce the time for the delivery of fresh meat products to the consumer. But in far from all cases does this lead to additional outlays for the delivery of the prepared products since this way one also eliminates losses of meat and fat that have already been raised.

It should be noted that the industrial systems that are being formed in Hungary for producing animal husbandry products are more and more frequently creating processing capacities themselves, constructing interfarm

*See: Smelyakov, N., "Delovaya Amerika" [Business America], Moscow, Politizdat, 1970, pp 54-55.

**See: Runov, B.A., "Osnovy promyshlennogo otkorma skota v SShA i Kanade" [Fundamentals of Industrial Livestock Fattening in the United States and Canada], Moscow, "Kolos", 1971, p 293.

***See: VOPROSY EKONOMIKI, No 6, 1979, p 85.

processing enterprises or trying to deliver the live animals to nearby meat combines.*

But what with the immense expanses in our country and the extensive network of animal husbandry complexes and farms, one should not be oriented toward the construction of only small meat combines which are located directly at the animal husbandry complexes and interfarm enterprises. Still, neither do we need only immense meat combines in large cities and industrial centers which are located a long ways away from the raw material zone.

During the prerevolutionary and postwar periods, the construction of the majority of enterprises of the meat industry in cities was related to the shortage of refrigeration capacities and the poor electricity supply for rural areas, which made it impossible to create supplies of meat and ship them over long distances. Now the situation has changed. Under these changing conditions it is necessary to find the optimal variant of the solution to this problem by shifting the large slaughter enterprises from large cities to the raw material zone, which is important not only economically but also socially. The meat combines that exist in the cities should be transformed into meat processing plants.

Take, for example, the Sumy Oblast production meat association, which includes eight meat combines. The shortage of production capacities for processing meat in the oblast still amounts to 100 tons per shift.⁷ Taking into account the fact that the Sumy meat combine (with a capacity of 50 tons of meat per shift) in the near future will no longer be among the operating enterprises because of the outdated equipment, the Ukrainian state institute for planning enterprises of the meat and dairy industry recommends constructing on the territory of this meat combine a meat-fat and meat processing complex (with a capacity of 150 tons of meat per shift). Justifying the construction of this complex economically, the planning institute proceeds from existing methods of calculation (that is, from the minimum expenditures), which completely suits the ministry and corresponds to its departmental interests. Yet railroads and highways already come into the city and it has solved the problem of supply of water, fuel, (gas has been brought in) and electric energy, and the sewage systems is functioning.

But this does not contribute to solving the problems raised by the Communist Party for the near future--to provide the country with a reliable supply of food and agricultural raw material, and also to eliminate the existing distinctions between the city and the country.

The construction of a meat-fat and meat processing complex (with a capacity of 150 tons of meat per shift) with the cattle being slaughtered

*See: VOPROSY EKONOMIKI, No 9, 1979, p 97.

in Sumy does not solve the aforementioned problems, and therefore it is inexpedient. It corresponds neither to the economic interests of the state nor the social policy of the party which was determined by the CPSU Program, since it not only involves increasing the distance of shipments of livestock (and, consequently, also losses of meat and fat that have already been raised, but also it does not solve problems of creating normal cultural and living conditions for the workers in rural areas and it worsens these conditions in the city.

One must take into account that the concentration of large enterprises in one place (in cities) creates difficult social problems and leads to considerable inefficient expenditures. It leads to the growth of the population of large cities as a result of increased migration from the villages and smaller cities. Territories that are distant from the center begin to be built up and new streets and urban transportation routes are built, which frequently involves writing off buildings and structures which are still good, and this consequently, in turn, leads to the reconstruction of water and sewage systems, energy networks and so forth. There arises a critical need to construct kindergartens, day nurseries, schools and medical institutions. The overpopulation of large cities brings about increased pollution of the air, water and soil and also increases the amount of time it takes for residents to get to work. Because of the fact that immense funds are used for the development of large cities, there are none left for population points of rural regions, which leads to neglect of the latter and migration of the population from them. All this stands in contradiction to party decisions concerning limiting the growth of large cities.

In order to eliminate the socio-economic differences between the city and country, it is of greatest importance to organize in rural areas enterprises of industry (light, food, constructions materials and metal repair), as a result of which industrial labor will shift more and more to small cities, villages and hamlets, which, in turn, will make it possible to solve many social problems of rural regions.

The construction of industrial enterprises in rural areas should be regarded not as a goal in itself, but as a means of improving the main production activity of agricultural enterprises and solving the complex of problems of cultural-domestic and municipal services, which play an essential role in overcoming the socio-economic differences between the cities and villages. The construction of these enterprises in rural areas will sharply reduce expenditures on the creation of an infrastructure here and will contribute to equalizing the conditions for the life of residents of the cities and the villages.

All this taken together will provide for year-round employment of all groups of able bodied rural population and thus will facilitate the seasonality

and the utilization of the labor force in rural areas, will exert a decisive influence on increasing the number of industrial population, and will create conditions for bringing rural residents closer to industrial organization and culture of labor. Briefly, the location of production means not only to solve purely economic problems, but also demographic, social and ecological ones.

This is why at the present time we have a right to speak about the out-datedness of those criteria for evaluating the economic effectiveness of production which do not take into account the need to solve social problems, and sometimes bypass them, particularly the problem of eliminating the essential differences between the city and the country.

Because of the reasons we have listed, it would be expedient, instead of a meat-fat and meat processing complex in Sumy with a capacity of 150 tons of meat per shift, to construct two-three meat combines with capacities of 50 tons of meat per shift (and perhaps even less), locating them in the southern and southeastern parts of Sumy Oblast. And the existing meat combine in Sumy should be transformed into a meat processing plant (without shipping animals for slaughter here), which will improve the sanitary and hygienic conditions of the city and will not complicate the life and daily concerns of its residents. Moreover, these measures would contribute to halting the flow of population from smaller cities and villages of the oblast to the oblast center.

It is considerably more complicated to construct these several meat combines in rural areas from the standpoint of organizational, technical and departmental interests. But it is expedient and economically effective from the standpoint of the interests of the socialist state, the solution to rural problems, the socialist principle of distribution of productive forces, and also the final national economic results which are sometimes impeded by departmental limitations.

Consequently, this approach to distributing meat combines which are integrated with agriculture throughout the territory of the oblast will provide for a solution to the program problem of the Communist Party--eliminating the socio-economic differences between the city and the country.

As for the distribution of poultry processing enterprises in the oblast in the near future, in this case it is necessary to be oriented toward processing poultry in the shops of the corresponding meat combines. Because of the fact that poultry reacts even more negatively than cattle to increased distances of shipments, it would be expedient to keep (in the future, possibly, even expand) a shop for processing poultry at the Verzhbha meat combine. Since the processing of poultry is significantly

related to the seasonality of its arrival, the existing Vorozhba meat combine should be transformed into a slaughterhouse (that is, a cattle slaughtering enterprise), eliminating the sausage shop here if necessary. The organization of a slaughterhouse in Vorozhba will bring the meat industry of the oblast closer to agriculture, which will contribute to their integration, and, the main thing, will reduce losses of meat and fat during the shipment of livestock.

The distribution of the meat processing industry that is integrated with agriculture should be scientifically substantiated, based on optimal decisions. "By now," as M. Antonov correctly noted, "a sufficient scientific stockpile has been created for developing methods of finding the economic-socio-ecological optimums...soviet economists (for whom the interests of man are in the foreground) cannot be satisfied with a narrow economic approach."* Life requires that when economically substantiating the sizes of enterprises and their distribution throughout the territory, it is necessary to do technical and economic calculations which also take into account the social factors, and in particular the possibilities of solving the problem of eliminating the socio-economic differences between the city and the country.

Source: KOMMUNIST, No 3, 1981, p 48.

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HOG RAISING IN SUBSIDIARY ENTERPRISES OF RSFSR CONSUMER COOPERATIVES

Moscow SVINOVODSTVO in Russian No 9, Sep 83 pp 3-5

[Article by V. Stepantsev, deputy chief, and D. Pavlov, head zootechnician of the Roskoopzhivprodresursy Administration of the Russian Consumers' Union: "Additional Resources--to Work"]

[Text] The basis of the formation of state food resources in our country is products obtained from the kolkhozes and sovkhozes. But no small role in improving the nutrition for the population is also played by products which subsidiary agricultural enterprises produce on their fields and farms.

The urgency of the development of subsidiary farms and strengthening them is confirmed by the materials of the 26th CPSU Congress and the May (1982) Plenum of the CPSU Central Committee which set tasks of searching out additional food resources for all organizations, including workers of consumers' cooperatives.

Two years of the Eleventh Five-Year Plan have passed and one can already make a brief analysis and sum up certain results of this important work.

During 1981-1982 the subsidiary farms of consumers' cooperatives and the RSFSR, as a result of fattening livestock and poultry, obtained 67,045 tons of meat--an almost 2.5-fold increase over a similar period of the Tenth Five-Year Plan. After fattening, 680,000 hogs with an average live weight of 102 kilogram per head were slaughtered. This means that 47,000 tons of pork went through the public catering system and consumers' cooperatives stores into the sphere of commodity turnover, which made it possible to essentially improve the supply of meat products to the population.

The purposive work of all units of consumers' cooperation for creating and expanding the material and technical base for fattening livestock helped.

To accomplish this, a five-year program was developed for the construction of premises according to standard designs to accommodate 300-400 head and more, with progressive technology for feeding and maintaining the animals.

The experience and practice of many organizations of consumers' cooperation shows that it is economically disadvantageous and inexpedient to construct facilities with small capacities since the technological equipment for them is produced in series and this entails the application of heavy manual labor and high production costs of the products. Sufficiently large-scale construction and renovation of old facilities made it possible to expand the fattening of animals--there are now facilities to accommodate 240,000 hogs at one time, which is 95,000 more than in 1980.

Before the end of the five-year plan, it is intended to construct another 522 hog farms and fattening points with an overall capacity of 140,000. In order to fulfill the planned volume of meat production, more than 2.1 million hogs will be raised.

A large contribution to increasing food resources as a result of fattening livestock in 1982 were made by collectives of the Bryansk, Ryazan, Gorkiy, Belgorod, Astrakhan, Tatar, Stavropol, Rostov, Krasnodar, Altay, Omsk, Krasnoyarsk, Pskov, Vladimir, Kalinin, Kaluga, Orel, and other consumers' unions. During past years they have greatly improved the work for fattening livestock and increased meat production two-three-fold.

In addition to the leading boards, however, there are also those which display inertia and are not attentive to questions of the development and expansion of the network of subsidiary farms, justifying their inactivity by a multitude of "objective" factors. Among them one can name the Vologda, Novgorod, Komi, Chuvash, Northern Osetian and Checheno-Ingush consumers' unions. Take, for example, the Leningrad and Kaliningrad consumers' unions. For a long period of time now their subsidiary farms have been essentially standing still: the average annual production for the past two years in the Leningran consumers' union has amounted to 78 tons, and in the Kaliningrad--88 tons, and in the former case one rayon cooperative produced 4 tons, and in the latter--6 tons, while in the system of the Russian Consumers' Union as a whole, one rayon cooperative receives 19 tons. And in the Pskov consumers' union, which borders on the Leningrad one, during this time they obtained 586 tons, or 24 tons per rayon cooperative, and in Arkhangelsk--479 tons (23 tons per rayon cooperative). And yet the feed base and the provision of personnel as well as the soil and climate conditions are approximately the same, but the results are different.

Let us try to figure out in greater detail the factors that impede the process of the development of cooperative animal husbandry in these consumers' unions.

The increased production of meat and the fulfillment of the assignments are conditioned by the material-technical feed. It should be noted that the Pskov workers pay a good deal of attention to this: they are constructing standard hog yards and they have organized subsidiary farms in all 24 rayon consumers' unions.

The production area of the facilities makes it possible to fatten 6,400 hogs at the same time. The board of the oblast consumers' union actively publicizes and generalizes advanced experience in fattening hogs using food wastes among the farms of their system. Such rayon consumers' unions as the Nevel'skiy, Pushkinogorskiy, Kun'inskiy and Strugokrasnenskiy, produce 50,000-70,000 tons of meat a year. And operate without interruptions, 45 percent of the hogs that are being fattened here come from their own reproductions, and this is very important under conditions where livestock procurement organizations of the Russian Breeding Association regularly violates schedules and conditions for the delivery of young animals.

Last year the Pskov oblast consumers' union delivered 3,080 head of its own young animals for subsidiary farms and fattening points--twice as many as in 1982. This, in turn, made it possible to utilize the potential capabilities of the animal husbandry premises more efficiently and to increase meat production to 639 tons--109 tons more than in 1981.

The feed base here is comprised mainly of food scraps from public catering and the storage and processing of agricultural products, of which 7,514 tons were gathered. Their proportion in the hogs' ration amounted to 70 percent--this is the highest percentage in the system of the Russian Consumers' Union. But in the neighboring Leningrad Oblast consumers' union only 13 of the 20 rayon unions engage in fattening. The material and technical base of cooperative animal husbandry is developing extremely unsatisfactorily, and at the present time it can maintain on fattening no more than 1,360 hogs, or 66 head per rayon union, which is less than one-fourth the number in the Pskov consumers' union.

It is not surprising that the Leningrad cooperative members have never produced more than 85 tons of meat a year, and in 1982 they produced even less--80 tons. It has become a regular occurrence here to fail to fulfill the established planning assignments. They are not doing purposive work to create their own reproduction. The proportion of their own animals in the overall deliveries of hogs for fattening amounts to only six percent instead of 40-50 percent. They are not taking measures for creating a stable feed base. Yet these issues must be resolved immediately, and there are possibilities of doing this--this is shown by the work of the Pskov consumers' union and many other organizations which are achieving good results.

For example, on the subsidiary farms of the Gorkiy consumers' union in 1982 they produced 1,300 tons of meat, which is three times as much as the average for one year of the Tenth Five-Year Plan. They fattened 6,790

hogs and 998 head of cattle. The average release weight of hogs amounted to 135 kilograms. They sold 640 tons of pork in the sphere of commodity turnover through the system of public catering and retail trade.

The majority of consumers' union organizations are stable, and increase meat production from year to year, which has made it possible for it to take the leading position among the 29 consumers' unions of the nonchernozem zone both in terms of volume and in terms of quality indicators because of the four-fold expansion of the material and technical base for fattening livestock. They have begun to gather more food scraps here and to raise feed crops on land that is allotted by the ispolkoms of the local soviets.

The average daily weight gain on fattening reaches 450 grams, and 160 kilograms of pork are received for each hog accommodation.

Their own reproduction has made it possible to arrange rhythmic and stable meat production. In 1982 alone, the subsidiary farms of the consumers' union received and fattened 4,784 piglets--44 percent of the volume of overall deliveries, or 1,800 head more than during the preceeding year. Moreover, more than 2,000 head of young animals were sold to the population.

For each kilogram of weight gain of hogs they spent about three kilograms of concentrated feeds, and the rest of the feed consisted of food scraps of which 3,344 tons were gathered while the assignment was for 2,380 tons, and agricultural products obtained from land assigned to the farms.

It is also important that the subsidiary farms are profitable. The Gorkiy cooperative members received 272,000 rubles in profit, which is 80,000 rubles more than in 1981 and 122,000 rubles more than the amount established by the plan for 1982.

The Tonshayevskoye subsidiary farm which produces not only pork, but also beef and milk, in 1982 received 95,000 rubles in profit. It completely provides its rayon center with agricultural products, and sometimes ships surpluses of them to the industrial centers of the oblast.

Attention should also be given to the work experience of the cooperative members of the Gorodetskiy rayon consumers' union. Meat production here has been organized on the basis of contracts for cooperation with the local population. Their relations are regulated by mutual commitments. They stipulate the policy for the acquisition of animals for fattening, the allotment of concentrated feeds and veterinary service.

When purchasing young animals from the kolkhozes and sovkhoses through the state breeding association, the rayon consumers' board gives the animals to activists for fattening. Partes who have concluded agreements for fattening animals are given mixed feeds in the amount of 100 kilograms per one hog, and food scraps are sold at two kopecks per one kilogram (in 1982 200 tons of them were sold to the population).

All expenditures involved in delivering the young animals and feeds and transporting the animals to the slaughtering point are taken from the rayon consumers' account. In order to provide incentives for parties who have concluded agreements for fattening hogs, they are the first to be sold commodities that are in great demand.

At the present time, 3308 hectares of otherwise unsuitable land are assigned to subsidiary farms. During the winter period of 1982/83, 450 tons of grain and 3500 tons of potatoes were obtained and prepared from this land in order to augment the feed base of cooperative animal husbandry.

The present development of the material and technical base of subsidiary farms greatly outpaces the traditionally formed system of creating a feed base. All cooperative organizations should engage in feed production and display initiative and enterprisingness in this matter, as was discussed at the November (1982) Plenum of the CPSU Central Committee, and use the agricultural land allotted for planting feed crops by the ispolkoms of the local soviets. Now 79,400 hectares of agricultural land, including 21,000 hectares of arable land have been assigned to the subsidiary farms of the consumers' cooperatives of the RSFSR. In 1982 from these lands they augmented the feed resources with 10,600 tons of grain, 4200 tons of potatoes, 27,600 tons of silage, 2300 tons of juicy feeds and 9200 tons of coarse feeds.

The majority of organizations try to get allotments of agricultural land, but there are also those which do not display the necessary persistence in solving this problem. While the Kalinin, Krasnoyarsk, Gorkiy, Udmurt, Kiyev and other consumers' unions are successfully acquiring land allotments, there is extremely little land available for the Orel, Tyumen, Khanty, Kursk, Ulyanov, Kalnyk, Orenburg and Vologda consumers' unions. These consumers' unions must petition for the allotment of lots of land for raising hogs. Hogs use meal made of legume hay, haylage and silage well. The introduction of these feeds into their ration makes it possible to reduce the level of concentrated feeds to 40-50 percent.

It is also possible to make up for the shortage of concentrated feeds with additional procurements of forage potatoes, grain and root crops from the population and various organizations at prices that are acceptable for the profitable operation of the subsidiary farms. By having a supply of feeds from the farms it is possible to apply successfully the system of feeding with concentrated feeds.

The work experience of the subsidiary farm in Vel'skiy rayon in Arkhangelsk Oblast is commendable in this respect. It is headed by the labor veteran (retiree) V. V. Vasilov.

Many consumers' unions are now constructing permanent stys which will be equipped with modern technological equipment. In our opinion, the assignment for planning should envision the construction of potatoe stores--barns for no less than 1-1.5 tons per head of livestock being fattened. This feed in combination with others will make up for the shortage of concentrated feeds and will mitigate the lack of regularity of their arrival.

The gathering of scraps from public catering lags behind the annual expanding material and technical base of hog raising and the procurements, storage and processing of agricultural products.

In 1962, 213,000 tons of food scraps were gathered, which amounted to 110 percent of the assignment set for the Russian consumers' union. But certain certain oblast consumers' unions not only did not fulfill the plan for gathering food scraps, but frequently did not utilize those scraps and gave them to other organizations. Thus the Perm Oblast consumers' union did not fulfill assignments for gathering scraps by 721 tons, but at the same time it released 687 tons to the outside. The proportion of food scraps in the ration for feeding amounted to 23.4 percent, and the expenditure of concentrated feeds per one kilogram of weight gain was six kilograms. A similar picture can be found in the Kemerovo and other oblast consumers' unions.

In order to obtain the necessary number of piglets for fattening, it is necessary to envision a closed cycle of meat production, whose basis is the farm's own reproduction. The more so since with the creation of subsidiary farms everywhere the problem of young hogs is more crucial than ever before.

In 1962 the fattening farms received more than 157,000 piglets, of which 110,000 were delivered to the farms for subsequent fattening, and the rest were sold to the population. But the proportion of these animals in the overall placement of hogs for fattening amounted to only 23 percent, and this is not enough for rhythmic, stable production of meat and full utilization of the production potential of the capacities in the system of the Russian Consumers' Union. The situation that has arisen requires that the farms immediately change their attitude toward their own reproduction of animals and not allow blunders in this matter as has been the case in preceding years.

For many years of experience and practice in fattening hogs shows that the young animals that come through the Russian Breeding Association are frequently not of good quality--the live weight of one head is ten-fifteen kilograms instead of 30-40 kilograms according to the delivery conditions. In terms of its qualitative composition, some of these animals should be rejected because of sanitary factors. As a result of this, annually the production cost of meat is high and the fattening is carried out at a loss.

The work experience in reproducing piglets in organizations of the Kirov oblast consumer's union is instructive. There, 80 percent of the herd being fattened are their own animals. The subsidiary farms of the Omsk, Yakutsk, Arkhangelsk and Khabarovsk consumers' unions have completely changed over to their own reproduction. Their practice is being adopted by cooperative members of Pskov, Gorkiy, Kaluga and Kamchatka consumers' unions.

There are large reserves for meat production in the raising of hogs to particular weight categories. But certain organizations underestimate this biological peculiarity of hogs and slaughter animals with low live weight.

In the system of the Russian Consumers' Union as a whole during 1982, 170,000 hogs with an average live weight of 103 kilograms were removed. An increase in the release weight of the animal to only 120 kilograms could produce more than 5000 tons of additional meat.

Expansion of cooperative animal husbandry and the farms' feed base, the search for additional food resources, the purposive work for reducing losses of animal husbandry products, and creative search and initiative—these are the areas that determine effective and highly profitable subsidiary farming for fattening livestock.

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U.S. 1824/41

MINOR CATTLE DISEASES IN MOLDAVIA ATTRIBUTED TO INDUSTRIALIZATION

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 8, Aug 83 pp 42-43

[Article by M. Tsurkan, chief of the main administration of veterinary medicine of the Moldavian SSR Ministry of Agriculture, head state veterinary inspector of the Moldavian SSR, and T. Pomirko, chief of the laboratory for diseases of cattle of the Moldavian Scientific Research Institute of Animal Husbandry and Veterinary Medicine, candidate of veterinary sciences: "Who is Responsible?"]

[Text] The industrial technology for maintaining and feeding agricultural animals makes it possible to avoid the appearance of such dangerous diseases as hydrophobia, anthrax, emphysematous carbuncle, malignant carbuncular fever, and certain kinds of helminthosis. Yet, the so-called "minor diseases" of calves are widespread, mainly of viral etiology (infectious rhinotracheitis, para-influenza-3, viral diarrhea and so forth), and colibacteriosis in newborn calves remains on the same level.

"Minor diseases" appear for many reasons: when the young animals are sent to specialized enterprises, calves coming from farms with various epizootic situations are mixed together; and industrial technology is violated, which leads to a reduction of the immunobiological resistance of the animals' organisms. Frequently, the older animals become ill because of poor-quality of inappropriate feeds or as a result of regrouping and other stress factors.

Appreciable harm is also caused by non-infectious diseases of newborn calves which appear because of incorrect preparation of the dry cows and first heifers for calving, and violations of veterinary and sanitary conditions during calving and raising of the young animals.

The main conditions for preventing diseases of calves are the observance of veterinary-sanitary requirements when placing them on specialized farms, and the rules for maintaining animals, the utilization of premises according to the principle "everything empty--everything occupied" along with careful cleaning and disinfection, and the observance of rules for feeding and zoohygiene. The experience of the leading farms shows that

with strict observance of all veterinary and sanitary-preventive requirements, diseases of calves at an early age can be prevented. Tuberculosis and leukosis are especially dangerous since they cause appreciable harm to dairy farming.

In order to prevent these diseases, specialists should not allow animals that are ill or are suspected of having tuberculosis or leukosis to be shipped into good farms; they must strictly observe the conditions for the operation of the closed type of enterprises on the farms, and they must conduct preventive quarantines for all newly arriving animals as well as the necessary diagnostic examinations and veterinary processing.

In preventing tuberculosis, it is very important to prevent the infection of the animal by diseased humans. Therefore, people suffering from tuberculosis are not allowed to work at animal husbandry complexes and farms. Animal husbandry workers are examined for tuberculosis each quarter and are given a prophylactic medical examination for tuberculosis once or twice a year. Since the whey and milk that comes to calf farms without being decontaminated can be the source of tuberculosis in livestock, it is better to use a whole milk substitute for dried skim milk, which in the process of preparation undergoes thermal processing.

In order to eliminate leukosis in industrial cattle raising, it is recommended not to allow the reproduction of calves that have been received from diseased cows. This is the basic measure in preventing leukosis.

Veterinary protection of industrial animal husbandry is not the duty of the veterinary service alone. Protection of the animals from diseases is a common cause. But, unfortunately, not everyone takes a conscientious attitude toward this. For instance, veterinary workers are not responsible for the fact that the complexes and farms are always short of decontaminates and disinfection machines, compressors and equipment for obtaining aerosols (SAG-1, DAG-2), that there is no specialized automotive transportation for transporting calves from the supply farms to the complexes and enterprises for raising non-calving young cows, or that for many years the complexes and farms of the republic have not solved the problem of providing the service personnel with special clothing and special footwear, or providing for laundering special clothing directly on the farms. All these are issues on which reliable protection of animals from infectious and non-infectious diseases depends. And who should resolve them? Zootechnicians and managers of the farms and the corresponding departments.

At animal husbandry enterprises it is necessary to provide for enclosure and a complete complex of veterinary and veterinary-sanitary facilities, and cleanliness must be maintained at all times.

The construction of veterinary-sanitary facilities is envisioned by the standard plans on all farms and complexes. But the farm managers, striving to reduce the cost of construction, exclude them from the plan or put the complex into operation with facilities whose construction has not been completed. There are cases where the complexes put into operation or the facilities are used for other purposes. And yet the "comprehensive interdepartmental plan for preventing food poisoning in the republic," which was approved by the Moldavian SSR Council of Ministers stipulates that complexes are not to be operated with incomplete construction of veterinary and sanitary-domestic facilities.

During the past two years the managers of ministries and departments that are engaged in the construction of complexes and farms have taken up the bad practice of not including representatives of republic state veterinary supervision on the state commissions for receiving animal husbandry complexes. Why? Apparently because if there were a representative of veterinary supervision on that commission, understandably, he would begin to insist on eliminating the imperfections in the work.

Frequently the appearance of infectious diseases on the complexes and farms has been promoted by the lack of quarantine facilities, proper conditions for slaughtering animals and biothermal pits for destroying dead animals and they have also been caused by purchasing livestock from the population and keeping it on the farms and complexes without preventive quarantines, diagnostic examinations and veterinary processing. All these issues are organizational-economic, and the veterinary service does not have the forces or the authority to resolve them. They also include control over the observance of zoohygienic conditions for feeding and locating the animals, and the determination of the value and harmlessness of food substances, and the organization of prompt removal of manure from the territory of the farms and complexes and its disinfection.

There are many issues like these. And all of them are indispensable parts of the technological cycle for the production of animal husbandry products.

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СЗН 1826/35

REGIONAL DEVELOPMENT

ROLE OF SCIENTIFIC RESEARCH IN FOOD PROGRAM IMPLEMENTATION

Moldavian Scientific Research Centers

Kishinev SOVETSKAYA MOLDAVIYA in Russian 15 Sep 83 p 1

/Article: "Familiarity With the Scientific Centers of Moldavia"/

/Excerpt/ Brightly illuminated artificial climate chambers stand alongside electronic computers in a large and spacious hall. Plants are growing in the chambers. Small sensors are fastened to their leaves for monitoring the health of the green inhabitants and for transmitting information to the machines.

This is but one room of the Biotron Institute of Ecological Genetics of the Moldavian Academy of Sciences, which entered operations only recently. On the second day of work by the 40th Session of the Council for Coordinating the Scientific Work of Union Republic Academies of Sciences, it was visited by the president of the USSR Academy of Sciences Academician A.P. Aleksandrov, vice presidents of the USSR Academy of Sciences Academician V.A. Kotel'nikov and Yu.A. Ovchinnikov and by a group of the country's leading scientists.

Biotron is an experimental base of a biological center of the republic's Academy of Sciences, which is under construction and which in the future will be of regional importance for the southern part of the country. To make plant and animal organisms more stable in the face of ecological stresses -- diseases and pests, environmental pollution and to help them be less vulnerable to the caprices of weather -- such is the task confronting the scientists here. The development of an adaptive system for managing agriculture is a central problem within the system of the Moldavian Academy of Sciences. All of the academic institutes and also the VUZ's, the NPO /scientific production association/ and other scientific organizations engaged in carrying out their own experiments at Biotron are participating in the work of solving this problem. Here the guests became acquainted with a complex of modern technical means for ensuring the artificial existence of plants and animals and with a system for obtaining and processing information on their condition with the aid of an EVM /electronic computer/.

Thereafter the scientists visited the Botanical Gardens of the MSSR Academy of sciences. They were informed regarding work being carried out by researchers

in the breeding of new and highly productive types and varieties of trees and shrubs and they were also provided with information on the introduction into Moldavia of green plants which are not considered to be traditional for this region.

The participants in the 40th Session also acquainted themselves with the work of the institutes of physiology and biochemistry of plants and applied physics, the Center for the Automation of Scientific Studies and Metrology and a laboratory for ecological genetics attached to the Genetics Department of the republic's Academy of Sciences, which are carrying out a great amount of work associated with implementing the tasks assigned by the USSR Food Program. Processes developed by them are being introduced into operations in the republic: a waste-free technology for producing protein concentrate from the juice of green plants and for obtaining high protein corn gluten from liquid waste products of the hydrolysis industry and optimum variants for the processing and storage of fruit. The Plazmoliz unit created by Moldavian physicists, which ensures an increase in the amount of juice obtained from the processing of apples, grapes and tomatoes, is now quite well known. At the Plodsel'khoz mash Scientific Production Association, the guests viewed a demonstration of the work performed by equipment complexes for orchards and vineyards. Among them -- machines for the processing of plantings and the harvesting and transporting of crops, which are being employed not only in Moldavia but in other union republics as well.

The 1st secretary of the Central Committee of the Communist Party of Moldavia S.K. Grossu, the chairman of the Presidium of the Supreme Soviet of the Moldavian SSR I.P. Kalin, the deputy chairman of the republic's Council of Ministers N.P. Kiriyak and the president of the Moldavian Academy of Sciences A.A. Zhuchenko acquainted themselves both with the republic's scientific centers and with those who participated in the session.

Speech of USSR Academician

Kishinev SOVETSKAYA MOLDAVIYA in Russian 15 Sep 83 p 2

[Speech by Yu.A. Ovchinnikov, academician and vice president of the USSR Academy of Sciences during the 40th Session of the Council for Coordinating the Scientific Work of Union Republic Academies of Sciences: "Scientific Foundation for the Food Program"]

[Excerpt] The development of the science of biology has acquired an organizational clarity and it has received strong support from the state. Here a most important role was played by the following decrees of the CPSU Central Committee and the USSR Council of Ministers, adopted upon the initiative of the USSR Academy of Sciences: "Measures for Accelerating the Development of Molecular Biology and Molecular Genetics and Utilizing Their Achievements in the National Economy" and "Further Development of Physics-Chemical Biology and Biotechnology and the Use of Their Achievements in Medicine, Agriculture and Industry." The need for developing an entire complex of biological sciences was emphasized in the decisions handed down during our party's 26th congress. During the June (1983) Plenum of the CPSU Central Committee, Comrade Yu.V. Andropov referred to biotechnology as being one of the more

important trends in scientific-technical progress. Finally, it was only recently that the Politburo of the CPSU Central Committee carried out a special review of the development in the USSR of the feed protein production industry and outlined a program for developing it. Our Soviet scientists are presently developing an all-union program of work in biotechnology. The biological science will play a special role in carrying out the Food Program approved during the May (1984) Plenum of the CPSU Central Committee.

From the standpoint of conditions required for the development of agricultural production, the Soviet Union is located in an unfavorable climatic zone. Occupying one sixth of the earth's surface, it is unable to use a large portion of its territory for agriculture. However, even in the traditional agricultural zones, droughts, low temperatures, winds and so forth occur quite frequently. All of this must be viewed as a permanent and not a temporary or random factor and the work must be carried out in a manner so as to ensure high levels of agricultural production even under these weather conditions. Here a leading role must be played by science. As noted by Comrade Yu.V. Andropov during a conference in the CPSU Central Committee in April 1983, our agriculture must keep pace with scientific-technical progress. Today it is quite obvious that agricultural improvements must come through science, including academic and VUZ and not just branch science, since the tasks which we must solve are extremely complex, diverse and require a great amount of effort and the use of basically new approaches. It is precisely from these positions that we must examine the tasks of our Soviet biological science.

The development of biological knowledge is proceeding at unprecedented rates during this modern era. But one fact is beyond dispute: the center of gravity for the biotechnological interests is gradually shifting towards the side of agriculture, mainly as a result of growth in the potential of genetic and cellular plant engineering, the appearance of genuine methods for creating new microorganisms and fermentation agents for the purpose of obtaining feed and food products and so forth. It is precisely this area of new biotechnology that is developing at a very rapid pace.

We have had considerable successes. And it is especially appropriate to discuss them here in Moldavia, where the agroindustrial complex is developing very rapidly, where a great amount of attention is being given to the use in operational practice of the latest achievements of scientific-technical progress and where the republic's Academy of Sciences is serving in the role of coordinator. I would like to emphasize the fact that it was by no means an accident that our session was held in Moldavia: we are studying very thoroughly the experience of our Moldavian colleagues, taking pleasure in their successes, aiding them in solving complicated problems and we are confident that the tasks confronting the republic's scientists will be carried out.

Plant breeding must play a very important role in implementation of the Food Program. International experience underscores the fact that the contribution made by plant breeding in developed countries over the past 30 years exceeds 50 percent of the increases which have taken place in the productivity of the principal agricultural crops. In view of the conditions imposed by our stern climate and very diverse soil conditions, special importance is attached to

plant breeding. In order to obtain high and stable yields, domestic agriculture requires a broad spectrum of agricultural crop varieties and hybrids that are adaptable to an industrial cultivation technology and resistant to diseases, pests, pesticides and various abiotic stresses. It should be borne in mind that during the period of agricultural industrialization, the importance of plant breeding as a principal factor in the formation of agroecosystems, which is characterized by high productivity, resistance and moderate energy-intensiveness, will increase considerably. Of equal importance will be the creation of livestock strains, strain groups and hybrids that will be suitable for maintenance in large-scale livestock complexes.

Traditionally the USSR Academy of Sciences has devoted a great amount of attention to developing the basic principles for genetics and plant breeding and searching for new and effective means for controlling variability and creating genotypes having a complex of valuable characteristics and properties. In the area of plant genetics and breeding, a chief task of the academic institutes is that of creating a theoretical base for plant breeding and developing new methods for creating varieties, such as radiation mutagenesis, remote hybridization and polyploidy, the use of apomixis, maintenance of a gene fund and others. The development of basic studies and the use of modern genetic-breeding methods in recent years have made it possible for the Institutes of the USSR Academy of Sciences and the union republic academies of sciences to obtain a greater number of varieties of wheat, barley, corn, cotton, potatoes, sugar beets and other crops.

The new approaches being employed in genetics and plant breeding have already made a real contribution for the biological science in increasing the production of agricultural products. We associate further improvements, or to be more exact, a qualitative leap forward, with achievements in biotechnology, particularly in gene and cellular engineering, which makes it possible to create new and highly productive organisms. Today it is already possible to obtain new organisms possessing valuable properties in accordance with a prearranged plan and to carry out a directed search if not an empirical one. In the process, the scientists are becoming true designers of new living systems.

With all probability, plant and animal breeding operations in the future will be closely associated with the use of molecular genetic methods and genetic engineering. Basic studies in this area are already being developed in an active manner in the academic institutes. Studies are being carried out on the structure and functions of eukariot genes and a search is being conducted for vectors for transforming them. For the first time in world history, the recombination of a gene which codes the protein in cow's milk -- casein -- has been carried out, gene banks for wheat and barley are being created and a search is being undertaken for mobile genetic elements in plants.

Obviously, during the first stage the best results can be expected from molecular genetics and genetic engineering as they apply to plants. Cellular technologies based upon cultivated cells and plant tissue are capable of changing radically the traditional methods for creating new varieties of plants and obtaining healthy planting stock and rapid clone propagation of newly created and regionalized economically valuable varieties. The cellular

technologies are opening up the possibility of cryobank storage, in the absence of mandatory annual renewal, of collections and forms and also of varieties of such vegetatively reproductive agricultural plants as potatoes, fruit and berry crops, grapes and citrus fruit. The equipment required for the cryopreservation of cells and meristems has been developed.

The latest achievements of the biological science also embody some very promising developments for livestock husbandry. Studies are being carried out in the USSR Academy of Sciences, the Academy of Sciences of Kazakhstan and VASKhNIL [All-Union Academy of Sciences imeni V.I. Lenin] on the possibility of reproducing animals using the methods of zygote transplants, parthenogenesis and cloning of animals and poultry. In particular, during just one season at the Institute of Experimental Biology of the Academy of Sciences of the Kazakh SSR, six lambs were obtained from a highly productive ewe with the aid of superovulation and zygote transplanting.

The biological science is participating more actively in work associated with solving the feed problems. The theoretical principles are being developed for forming highly productive agrocenoses, which will make it possible during a short growing season and in a majority of the country's agricultural regions, to obtain a maximum yield of biomass. The feed production volumes called for in the Food Program of up to 500 million tons of feed units in 1985 and 540-550 million tons in 1990 will be achieved for the most part based upon plant resources. Towards this end, it will be necessary to solve complicated tasks in such areas as plant physiology, photosynthesis and ecology. Special attention must be given to raising the intensity of nitrogen fixation by pulse plants. As is well known, the most effective producers of plant protein are clover, alfalfa, soybeans and other pulse plants. Thus considerable importance is attached to intensifying work with these crops, in conformity with the conditions prevailing in the different regions of the country.

A microbiological industry for the production of feed additives has been created in our country, with the leading role being played by the academic institutes. Work is presently being carried out aimed at expanding the raw material resources considered suitable for this purpose. The use of methanol, methane, natural gas and the waste products of the wood technology and food industries appears to be very promising in this regard.

Special attention is being given to these problems at the present time. The plans call for an extensive system of measures for increasing the production of microbiological and other products required for obtaining high quality feed. The implementation of these measures will make it possible to improve considerably the ability to supply animal husbandry with rich, protein-balanced and other feed components and, on this basis, to carry out the task of the USSR Food Program with regard to increasing the production and improving the quality of livestock husbandry output.

The efficient utilization of biologically active substances promotes improvements in the productivity of animal husbandry and cultivated plants. Considerable results are being realized in animal husbandry through the use of various regulators for controlling the activities of animal organisms — hormone preparations. An experimental-industrial chemical synthesis for the

peptide hormone oxytocin has been developed by the academic institutes. Highly effective preparations of a steroid nature have also been created.

In the campaign against agricultural livestock diseases, the use of various vaccines has proven to be extremely effective. As is well known, an important role in immunity is played by antibodies, which recognize and render harmless a great variety of foreign antigens. The task consists of having an easily reproduced group of antibodies and also of being able to control the immune response in an effective manner. At the present time, hybrid equipment is being employed extensively for the purpose of obtaining specific anti-bodies. Immunogenetic engineering holds great promise for the future. This is a new trend, the goal of which is that of synthesizing functionally active fragments of anti-bodies, antigens and immunity factors using gene engineering methods.

Interferon is a multiple-purpose natural agent for combating virus infections. However, in the majority of instances interferon by itself is not sufficient. The scientists have developed a technology for producing it from the blood of animals and yet even this may be inadequate for combating virus infections, especially in the case of strong epidemics and epizootic disease. Thus use had to be made of gene engineering and, on this basis, to obtain interferon from man and animals under laboratory conditions. Such a study was successfully completed by scientists of the USSR Academy of Sciences and the USSR AMN /Academy of Medical Sciences/, with regard to human interferon. Work with gene-engineering interferon obtained from a number of agricultural animals is now nearing completion.

Our scientists have a great amount of work confronting them in the area of soil science and particularly with regard to raising soil fertility. One of the chief problems here is that of accumulating and maintaining a positive humus balance in the soil. This problem must be a center of attention for the scientists. More intense work must be carried out in connection with developing more effective methods for raising the fertility of soils, while taking into account zonal peculiarities and based upon a considerable increase in the accumulation and efficient use of all types of organic fertilizers. An increase in the production of mineral fertilizers is not substitute for the extensive use of organic fertilizers, the effective use of which must be raised considerably.

In protecting crops against diseases, pests and weeds, an important role is played by an integrated system of production, one which combines agrotechnical methods with effective chemical agents, the production of which is determined by delicate chemical synthesis. Recently there has been an increase in the synthesis of pesticides and growth regulators. Many preparations are undergoing extensive field testing and before long will undergo state testing. However, a rapid solution for the problems of pesticides and bioregulators requires the creation at institutes of the USSR Academy of Sciences, its scientific centers and branches and also at the union republic academies of sciences of experimental production efforts for the development of industrial batches of preparations having high selectivity of action and which are less toxic to man and the environment.

Simultaneously with developing new and highly effective chemical agents for protecting plants, a need also exists for developing biological methods for combating pests and the causative agents of infections. Such bacterial insecticides as BIP /bacterial insecticide preparation/ are producing fine

results in combating fruit moths, the lesser appleworm, lackey moth and inchworms. The use of pheromones -- sexual attractants for insects and other animals -- is proving to be highly effective. In particular, the use of pheromones for combating pentatomids is very effective.

One of the most important problems arising from the Food Program requirements -- correct storage and reduced losses in agricultural products. Studies of both a theoretical and applied nature are being carried out in this regard at a number of institutes of the USSR Academy of Sciences. Certain problems have already been studied and the results of the studies are of practical value. For example, in order to reduce grain losses during storage use can be made of radiation disinfection of the grain. This method ensures personnel safety, it does not result in a deterioration in the food qualities of the grain, it does not contaminate the surrounding environment and it reduces expenditures by twofold.

At the present time, a special method is being employed for processing potatoes at the fruit and vegetable bases and this is reducing potato losses to a considerable degree. Methods have been developed for the heat insulation of agricultural products that are stored in clamps in the winter. This method involves the use of polymer foam which hardens very rapidly when exposed to air. Deep freezing of products and also the use of a controlled gas medium for storage purposes can also be viewed as promising methods for improving the storage of vegetables and fruit.

A reduction in agricultural product losses requires considerable development in the USSR Academy of Sciences of studies aimed at improving the processing technology and comprehensive use of agricultural raw materials in the food industry. At the same time, improvements must be realized in the designs of the machines and the materials used in them, in the interest of eliminating damage to the products during the harvesting, sorting and transporting operations.

The development of scientific studies must be accompanied by the introduction of new developments in production. It is our opinion that a common system must be introduced for this purpose. Scientific works prepared and presented by the academy to the appropriate ministries and departments must be included in the plans for introducing scientific achievements, which should outline the schedules for introducing them and also the technical and material resources allocated for this purpose.

The effectiveness of scientific studies, as is known, is determined to a large degree by effective coordination and organization of the work to be carried out. Unfortunately, substantial shortcomings exist in this work. The existence of departmental scientific-technical programs often complicate the work, do not eliminate duplication and lowers the responsibility of scientific institutes for the development of themes and the introduction of scientific achievements into production operations. A conversion should be carried out over to a single state program that will regulate and facilitate coordination raise the responsibility of the scientific institutes for fulfillment of the plans for scientific studies and ensure proper control over the execution. Order must be restored in the coordination of scientific studies carried out

at institutes of scientific centers and branches of the USSR Academy of Sciences and the union republic academies. The existing isolation in the development of scientific studies is resulting in multiplicity of themes and duplication and it is reducing the level and results of scientific work sharply.

The carrying out of the Food Program is a task for all of our people. The latest achievements of the biological science must be made available for use in agriculture and the schedules for their practical introduction into operations on the fields and farms must be reduced sharply. This requires the scientists to carry out their work in a highly creative manner and to display high levels of organizational ability, persistence and inspiration. The party and all of our Soviet people are waiting for the scientists to provide them with solutions for the vital tasks of agricultural production. I wish to express the confidence that they will cope with these tasks successfully.

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CSO: 1824/62

DISCUSSIONS ON ECONOMIC MECHANISM OF APK SYSTEM

Service, Cooperative Organizations

Moscow EKONOMICHESKAYA GAZETA in Russian No 38, Sep 83 p 16

[For related material please see JPRS 84514 of 12 October 1983 No 1404 of this series]

[Text] On a territory of individual administrative rayons there are enterprises and organizations that serve the farms of several rayons. What is the policy for including them in rayon agro-industrial associations? We asked specialists of the main board for interfarm cooperation and agro-industrial integration of sovkhoz and kolkhoz production of the USSR Ministry of Agriculture to discuss this. The first four discussions were published in Nos 32, 34, 35 and 37.

As a rule, the rayon association includes primarily kolkhozes, sovkhozes and interfarm enterprises, and also enterprises and organizations that serve agriculture and provide procurements, storage and processing of agricultural products.

The enterprises and organizations that serve several rayons can be included in associations by decisions of the rayispolkom of the soviet of people's deputies only with the agreement of the corresponding higher departmental agencies. They can include primarily interfarm enterprises that engage in completing the raising and fattening of livestock and other kinds of agricultural production, specialized repair enterprises of Goskomsel'khoztekhnika, points and plants for receiving and processing milk, meat combines, canning plants and sugar refineries and shops.

The RAPO can include enterprises and organizations of other ministries and departments whose activity is related to the production, procurements, processing and sales of agricultural products. In this case, in order for the rayispolkom to adopt a decision, it is also necessary to have the agreement of the higher branch agencies. They include enterprises and organizations that purchase from the kolkhozes and sovkhozes flax, cotton, tobacco, silkworm cocoons, medicinal grasses and several other kinds of products, and also those that prepare products that are produced on private subsidiary farms. This category can include enterprises and organizations of the USSR Ministry of Light Industry, Tsentrosoyuz, the USSR Ministry of the Fish Industry and several others.

I should like to mention especially the participation in the RAPO of enterprises and organizations of Tsentrosoyuz. First of all, they procure part of the agricultural products produced by the kolkhozes and sovkhoses, and also products obtained from private subsidiary farms. At the same time, they provide trade services and public catering for the population.

Thus the activity of agricultural enterprises and consumers' cooperatives are closely interwoven on the basis of interconnected interests. Because of this there should be no doubt about the participation of enterprises and organizations of Tsentrosoyuz in the activity of the RAPO.

At the same time, one should note that certain enterprises and organizations of the agricultural complex which are on the territory of the administrative rayon are not included in the RAPO.

These are large repair plants of Goskomsel'khoztekhnika, enterprises for constructing water management facilities, large meat combines and canning plants, and enterprises of the biological industry. These enterprises are included in the oblast, kray or republic agro-industrial association.

Overall Operation of APK Partners

Moscow EKONOMICHESKAYA GAZETA in Russian No 39 Sep 83 p 16

[Text] The next discussion (the first five were published in Nos 32, 34, 35, 37 and 38) is devoted to questions of the orientation of all enterprises and organizations included in the rayon's agro-industrial complex toward increasing the efficiency of agricultural production. It was prepared by specialists of the USSR Ministry of Agriculture.

The rayon agro-industrial association includes, in addition to kolkhozes, sovkhoses and interfarm enterprises, enterprises and organizations of various branches. As a rule, they do not engage directly in agriculture, but perform a whole series of their own specific tasks which are related to serving the farms. How does one make sure that all of them direct their activity toward increasing the products of the fields and farms and increasing the efficiency of all branches on the kolkhozes and sovkhoses?

Creating motivation for the enterprises and organizations that comprise the agro-industrial complex to achieve good final results of agricultural production is one of the main economic methods of administration in the modern stage. Taking this into account, the May (1982) Plenum of the CPSU Central Committee earmarked a whole number of measures for motivating the partners of the kolkhozes and sovkhoses that render assistance to them in technical and agrochemical service work production, conducting land reclamation work and providing for procurements, storage and processing of agricultural products.

The decree of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Economic Interrelations Between Agriculture and Other Branches of the National Economy," in keeping with the decisions of the May (1982) Plenum of the CPSU Central Committee, adopted a new policy for evaluating the activity of enterprises and organizations that serve agriculture. Now they use as a basis the production indicators that are achieved on the kolkhozes and sovkhozes. And the activity of procurement organizations is evaluated depending on how they fulfill the plans for the procurements of products.

Thus, for the associations of Sel'khozteknika, the main thing is to increase the production of agricultural products and to increase labor productivity on the kolkhozes and sovkhozes which they serve. Here they also take into account the way contractual commitments are fulfilled for all kinds of production and technical support of the farms, and also the quality of work and the reduction of expenditures on services that are rendered.

The evaluation of the activity and the awarding of bonuses to managers of Sel'khozimiya associations are based on approximately the same principle. But in this case one takes into account the increase not of the entire gross output, but of crop growing products as compared to the level achieved on the kolkhozes and sovkhozes that are being served during the past five years and also the return on mineral fertilizers and other chemical means. Labor productivity is not taken into account here either since it depends on many other factors.

Land reclamation workers are required to increase the productivity on reclaimed land, to achieve the planned productivity on newly assimilated land and to fulfill the commitments for providing service for farms. Under these conditions, they can count on a bonus.

Procurement organizations are called upon to provide for fulfillment and overfulfillment of the plan for procurements of agricultural products, to preserve all of them, to process them promptly and in a large assortment, and to deliver them to the consumer with high quality.

The bonuses for management workers who serve agricultural enterprises and organizations depend on the fulfillment of all the indicators that have been presented. But how will the entire collective be motivated?

An effective measure which orients the collective workers of all enterprises and organizations that are partnerships of the kolkhozes and sovkhozes toward improving indicators in agriculture is the new policy for forming material incentive funds for social and cultural measures and housing construction. Now the normatives for the formation of these funds depend on the fulfillment of indicators which lie at the basis of the evaluation of the activity of the aforementioned enterprises and organizations.

Are there other forms of economic stimulation for service enterprises and for their orientation toward the final results in agriculture?

No small role here is played by a new policy for including rayon associations of Sel'khoztekhnika and Sel'khozmiya in groups for payment for the labor of managers and specialists. While previously the amount of the salaries for these workers was established on the basis of the volume of work performed, now it is basically dependent on the volume of sales (production) of agricultural products.

The RAPO council has been given the right to establish conditions for awarding bonuses to management workers and specialists of enterprises and organizations that are included in associations, regardless of their departmental jurisdiction. Here, the bonuses for the aforementioned workers are awarded according to the results of the year for increasing agricultural products and increasing the profit on the kolkhozes and sovkhoses which they serve as compared to the level achieved during the preceding five years, and during the course of the year--for the fulfillment of contractual commitments. Most of the bonuses are paid according to the results of the year, but the amount of the bonuses during the current year should not exceed the worker's salary for a month and a half.

A form of providing incentives for improving the quality of work performed for the kolkhozes and sovkhoses has been introduced which is directly related to the production of agricultural products. For this work the accounts with the enterprises and organizations during the course of the year are based on 92 percent of their actual value. But at the end of the year an additional payment is made, depending on the fulfillment and overfulfillment of plans for producing agricultural products on the farms that are being served.

The kolkhozes and sovkhoses are given the right to sell to workers of service enterprises grain, potatoes, vegetables, fruits, grapes, melons and feed crops in exchange for the performance of certain jobs which are directly related to the production of agricultural products.

All of the aforementioned measures contribute to more active work by the partners in the APK for increasing the effectiveness of production on the kolkhozes and sovkhoses.

11772

CSO: 1824/30

FORMATION, OBJECTIVES OF RAPO CENTRALIZED FUNDS EXPLAINED

Moscow EKONOMICHESKAYA GAZETA in Russian No 42, Oct 83 p 16

[Article: "Centralized Funds of RAPO"]

[Text] In conformity with the existing statute, agroindustrial associations create centralized funds for material incentives, social-cultural measures, housing construction and for production development. Today our next discussion is devoted to the principles, system and goals associated with the formation of these funds. This article has been prepared by specialists of the USSR Minsel'khos [Ministry of Agriculture].

The centralized funds of a rayon agroindustrial association are formed by means of deductions from the resources of enterprises and organizations belonging to the association. The specific amounts for these funds and for the contributions to them from the resources of kolkhozes (with their consent), sovkhoses and service, processing, procurement and other enterprises and organizations belonging to the association are determined by the RAPO [rayon agroindustrial association] on a differentiated basis, taking into account the production volumes, the availability of fixed productive capital, the profitability level, the amount of profit (net income) and other indicators.

In the process, the centralized funds for material incentives, social-cultural measures and housing construction are formed by means of deductions of up to 5 percent from the resources of similar funds of kolkhozes (with their consent), sovkhoses and service, processing, procurement and other enterprises and organizations belonging to the association. The resources of the mentioned funds are distributed among the farms and service organizations in the manner defined by the RAPO council and with the consent of the rayon professional trade union committees.

What are the procedures to be followed for forming the centralized fund for production development for a rapo?

These procedures warrant special attention since they are employed for carrying out important measures aimed at accelerating the development of production elements that have fallen behind. This fund is formed through the centralization of up to 15 percent of the internal capital intended for developing the production of kolkhozes (with their consent), sovkhoses and

service, processing, procurement and other enterprises and organizations belonging to the association. The deductions into this fund are carried out by means of:

...a) internal capital -- profits, amortization deductions, earnings from the sale of retired and surplus fixed capital property (with the exception of resources from the culling out of livestock), the resources of funds for strengthening and expanding a farm, developing the production operations of a farm, construction and modernization of storehouses, development of the internal base, funds for scientific-research work;

...b) capital repair resources within the limits of the total amounts allocated for redistribution, but not more than 15 percent of the total amount of amortization for capital repairs;

...c) funds to be used at kolkhozes for capital investments and capital repairs;

...d) other resources which, in conformity with existing legislation, can be used for production development.

The specific amounts of the centralized fund for production development and for the deductions into these funds from kolkhozes, sovkhoses and other enterprises and organizations are determined by the association's council when developing the plan, but not later than 1 February, and they are taken into account in the financial plans of each kolkhoz, sovkhos, enterprise and organization for the respective year. The overall amount of deductions into the centralized fund for production development, for each kolkhoz, sovkhos, enterprise and organization, may not exceed 15 percent of the total amount of internal capital called for in the plan for financing capital investments (not including the resources for the fund for strengthening and expanding a farm).

For what purpose are these resources to be used for specifically?

The resources of the centralized fund for production development, in conformity with the estimate approved by the association's council, are used for financing capital investments, capital repairs and other expenses associated with the capital investments of enterprises and organizations belonging to agroindustrial associations, regardless of departmental subordination. For example, they can be used for the capital construction, modernization and capital repair of buildings, for the installation and repair of roads, bridges, wells, water-lines and other production installations, for the technical re-equipping of production, for fixed capital replacement and for improving the organization of production operations. They can also be used for other measures associated with the mastering of new types of products, raising labor productivity, lowering output production costs, improving the quality of the products being produced, carrying out construction-installation work and raising production profitability.

The statute approved by Minsel'khos /Ministry of Agriculture/, Minfin /Ministry of Finances/ and USSR Gosplan and Gosbank stipulates that the resources of the mentioned fund, intended for capital construction, are to be

used within the capital investment limits allocated to enterprises and organizations belonging to an agroindustrial association. The resources of this fund, particularly deductions from sovkhos funds for strengthening and expanding a farm and also the resources of inter-farm enterprises, kolkhozes and other cooperative enterprises and organizations can be used for carrying out above-plan capital investments.

Thus the RAPO Council has been granted great rights with regard to the centralization and use of economic incentive funds. The correct utilization of these rights will promote a strengthening of the kolkhozes and sovkhos and also their service organizations.

7026

CSO: 1824/74

AGRO-ECONOMICS AND ORGANIZATION

GORKIY OBLAST RAPO OPERATIONS EXAMINED

Moscow EKONOMICHESKAYA GAZETA in Russian No 37, Sep 83 p 5

[Article by G. I. Khomenko, secretary, Gorkiy Oblast CPSU Committee: "Agro-Industrial Associations" under the rubric "Party Guidance Over Agriculture"]

[Text] A little more than a year has passed since the formation of the new agencies for managing agriculture--the oblast and rayon agro-industrial associations. This is not a very long period, but even now it can be said that the path selected by the party incontestably is promoting more effective production. Favorable conditions have been provided for concentrating the resources of not only the kolkhozes and sovkhozes but also the organizations serving them, to the benefit of achieving higher end-results--higher crop yields and more productive animal husbandry.

However, a rational structure in itself is virtually pointless unless it is skillfully utilized. In particular cases, changes to the better hinge chiefly on the ability to exploit the economic and other instruments provided to the RAPO [Rayon Agro-Industrial Association]

Let me describe the related practical steps that were taken in Gorkiy Oblast.

Deployment and Training of Personnel

There is hardly any need to prove that success in a matter as particularly important as the restructuring in question depends primarily on the human factor, on the competence, discipline and organizational talents of the managerial cadre. This precisely is the approach taken by the oblast, city and rayon party committees in selecting candidates for the chairmen of RAPO councils. Some of the chiefs of rayon agricultural administrations have not been recommended for the new posts owing to deficiencies in their expertise, managerial resourcefulness and breadth of outlook. They were directly and candidly told (on being, of course, transferred to posts commensurate with their abilities) that this was not a subjective decision but one motivated by considerations dictated solely by the exceptional importance of the restructuring.

Similar job transfers were also carried out, wherever the need arose, among other workers of agro-industrial associations, especially among economists and bookkeepers. Unless these services are streamlined, accurate records cannot be kept and the collective contract system as well as cost-

effectiveness accounting--whose importance is growing with each day--cannot be properly and competently introduced. More practical-minded and reflective economists have replaced their inadequately trained counterparts on a number of, mostly, lagging farms on which systematic analysis of production expenditures had not previously been organized. The process of streamlining the economic subdivisions, coupled with the training of economists at rayon and oblast seminars, will be continued.

To exchange opinions on the initial difficulties and problems, a meeting with chairmen of RAPO councils was held at the oblast party committee. It was held in an atmosphere of exceptional trust and candor, without glossing over the rough aspects and with direct naming of the heads of agencies through whose fault particular problems could not be solved. What was the principal issue mentioned by these chairmen, and one that agitates them all at present, now that the new structures are being formed? It was the issue of establishing closer relations with the "Sel'khoztekhnika" [Agricultural Machinery Association] and the "Sel'khozkhimiya" [Agricultural Chemicals Association] for the sake of a common goal rather than parochial interests. Other issues of concern were: inter-subsector production-economic relations, an improved organization of the sales and storage of produce, and monitoring of the settlements of accounts between farms and procurement agencies. Mention was also made of the need to improve planning, supplies of materials and equipment and capital construction, as well as of settlement prices, the need to reduce the cost of certain services and so forth.

Of course, the participants in the conference did not receive exhaustive answers to many of the questions they raised, the more so considering that conditions are far from identical everywhere, but many recommendations and simply comradely comments undoubtedly proved to be useful and timely. Since we view such meetings as highly productive, we intend to continue inviting RAPO chairmen and their deputies, as well as chief economists, to periodic seminars of this kind. It is thought that subsequent such forums will be even more substantive and useful, leading to exchange of advanced knowhow, both from our own oblast and from the neighboring oblasts and autonomous republics.

Councils of secretaries of the party organizations at the kolkhozes, sovkhoses and other subdivisions belonging in the agro-industrial associations have been organized in all of the oblast's rayons. Substantive and purposeful talks also are being held with the chairmen of these councils, which represent the connecting link between the rayon CPSU committees and the party organizations operating within various components of the RAPOs. Emphasis was placed on strengthening the educational work of the party organizations among the masses, putting a halt to bureaucratic tendencies still surviving in places and enhancing the role of party members in the struggle to fulfill plan targets and overcome mismanagement in whatever form it may manifest itself. It is no sin to admit that, owing to laxity and negligence, on some farms grasses remain unmowed, potatoes and root crops are left unharvested in the soil, service life of machinery is shortened and gasoline is lavishly spent. Instances of profligacy and slovenly work should be properly combatted by party organizations, people's watchmen and members of the "Komsomol Searchlight"

The party organizations and council of the agro-industrial association in Arzamasskiy Rayon are working extensively to inculcate the collectives with a spirit of contempt and intolerance for lax and slovenly work.

The rapid "sinking of roots" of the RAPO and its positive influence on the development of agricultural production will depend to a significant degree on the economic training of the cadres. The oblast party committee posed the task of covering the whole apparatus, including its subdivision, with a special program, so that they would be clearly aware of the appropriate normative documents and the decrees of the party and the government.

Less Paperwork, More Action

From the first days of the formation of the rayon and oblast agro-industrial associations the oblast party committee has been paying special attention to their style of work. The idea is to prevent the RAPOs from turning into bureaucratic superstructures such as--let us be candid--still persist in agriculture. The purpose of the RAPOs is to direct all the organizations participating in the production, storage and processing of agricultural produce.

It is gratifying to note that an overwhelming majority of RAPO councils adheres to a practical style of activity, without superfluous conferences and memo-writing. This strength of purpose and concentration of effort on the principal problems of improving the economics of agriculture are traceable in the performance of the Semenovskiy, Kstovskiy, Borskiy, Bogorodskiy and certain other agro-industrial associations. As a consequence, they perform their activities in an organized manner and, most importantly, the principal directions in developing the economy have been determined.

The oblast party committee persistently promotes increasing the personal responsibility of the managerial cadre for the activities of the RAPOs. In our own oblast party apparatus we sharply reduced the number of conferences and the amount of paperwork so as to spend more time in rural work collectives and primary party organizations, provide practical assistance to them and to the RAPO councils and learn the situation at first hand. The rayon planning groups for the conduct of sowing, harvesting and similar campaigns have been disbanded and all these functions entrusted to the RAPO councils.

At the same time, there also exist some RAPOs whose performance displays serious shortcomings, attachment to old methods of work and an immoderate fascination with all sorts of "valuable guidelines for the grassroots." The heads of the Krasnobakovski RAPO have been especially fertile in conceiving all sorts of "directives" and "guideposts", and they recently were justly criticized for their armchair style of management. The dozen of directives dispatched literally within 3 weeks to the management of the "Rassvet" Kolkhoz included a schedule for preparing fodder for 1.5 months ahead. One would like to ask what is the point of such trivial concerns and orders emanating from the officialdom, what is their use? Is it that agronomists on the farm cannot see and know that a crop has ripened or where to dispatch first the mowing machines, threshing machines and combine harvesters? In this case the action of the agro-industrial association was tantamount to doing the work of the farm expert and manager.

An important point made by comrade Yu. V. Andropov in his speech at the June Plenum of the CPSU Central Committee has a direct bearing on the work of the RAPO. In that speech he emphasized the great importance of assuring "a proper division of functions among the organs of the party and state. It has been said more than once that party organs should not duplicate the activities of state organs, but this cannot be always avoided. Fairly often this results in lower responsibility of the heads of state organs, in the striving to transfer that responsibility to party organs, while at the same time prompting the latter to adopt a more or less administrative approach to matters."

An attentive survey will show that something similar can be observed in many rayons of our oblast. It has not so far been possible to completely eliminate the tendency of certain rayon party committees and rayon committees of the Soviets of workers' deputies to intervene in the technology of agricultural production, be oversolicitous toward the RAPOs and even do their work for them. Party and Soviet organs still often duplicate each other's activities and attend to the same matters such as the collection of various operative information. This occurs owing to inability to divide duties properly, on the one hand, and the incapability of rising above the flood of everyday concerns and perceiving the main issues, on the other.

Experience Is Beginning To Be Gained

It was no accident that I began this article by discussing the selection and training of cadres and the style of work of the RAPOs. For in the final analysis these factors are decisive to the operating efficiency of agro-industrial associations as well as to production. Despite the miscalculations and oversights mentioned above, by now quite a few valuable undertakings can be credited to these new structures. Let me mention but a few.

Many RAPO councils have established firm contacts, and reached mutual understanding, with such major partners as the "Sel'khoztekhnika" and "Sel'khozkhimiya" associations, which are now equally responsible not only for fulfilling their own production programs but also for the maintenance and prompt and competent repair of tractors and machinery as well as for the state of agricultural services on all farms of the rayon. Following the example of the Lyskovskiy and Sechenovskiy rayon divisions of the "Sel'khoztekhnika," its divisions in other rayons have at present organized with their own resources 35 equipment teams and links for the conduct of harvesting and transporting operations. As for the rayon subdivisions of the "Sel'khozkhimiya," they will conduct with their own resources the comprehensive cultivation of clean fallows on one-half of the lands.

Experts from the Gaginskiy RAPO investigated thoroughly the efficacy of cross-over planting which markedly raises crop yields. This experience was propagated on all farms of the rayon and energetically emulated in Sechenov, Spasskoye, Pochinki, Varnavina and other zones of the oblast. Owing chiefly to the initiative of the RAPO councils, the collective contract system has now become widespread. And besides now in general, rural toil is somehow done more smoothly and gaily, which, combined with the favorable weather conditions, has been reflected in all the leading indicators.

A rather good harvest of grains, potatoes, cabbage, edible beets, carrots and silage crops has been reaped in the oblast, where also the size and productivity of all kinds of livestock and poultry have increased. In the first 8 months of this year, compared with a like period last year, the procurements of milk, meat and eggs have been higher.

It is important to consolidate and multiply these accomplishments and maximally exploit the sizable potential still latent in all kolkhozes and sovkhoses. In this respect, of indubitable interest is the initiative shown by the Arzamasskiy, Dal'nekonstantinovskiy, Urenskiy and Koverninskiy RAPO councils in catching up within a short period of time with the arrears as regards the procurements of certain produce that had occurred during the first 2 years of the five-year plan. This initiative was supported by the oblast party committee bureau and it is being emulated by individual farms and entire rayons.

Directly linked to this task is another, more difficult and complex task which we expect to solve in the next 3 or 4 years--improving the performance of the lagging and unprofitable farms. It would be fundamentally wrong in this case to place all the hopes in economic measures by the state, and especially in increased procurement prices. The focus should be placed on streamlining the farm's own production through more effective management.

1386

CSO: 1824/579

PROBLEMS OF RURAL CONSTRUCTION CONSIDERED BY MINISTRY COLLEGIUM

Moscow SEL'SKAYA ZHIZN' in Russian 11 Aug 83 p 5

[Article by M. Zarayev: "A Comprehensive Solution to Social Problems"]

[Text] One of the obvious features of today's life in our rural areas is its planned restructuring and the increased volumes of construction of housing and cultural and domestic facilities. In 1983, the proportion of non-industrial construction in the overall volume of capital investments in the system of USSR Ministry of Agriculture increased, as compared to last year, from 23 to 34 percent.

These figures were presented on 9 August at a meeting of the ministry board chaired by the USSR Minister of Agriculture, V. K. Mesyats, as a sign of the growing attention that is being paid to solving social problems.

A good deal has been done during the past half year. The kolkhozes and sovkhozes have put into operation 5.3 million square meters of dwelling space--21 percent more than during the same period of last year. They are constructing more schools, children's preschool institutions and hospitals. But nonetheless, when considering the course of the fulfillment of the plan for housing and cultural-domestic construction, participants in the meeting made quite a few critical remarks. With an overall growth in the volume of construction, the half-year plan for the introduction of housing was not fulfilled in a number of republics. The arrears were especially great in the Russian Federation, where approximately half of the buildings are being constructed with the resources of the enterprises themselves. As the RSFSR Deputy Minister of Agriculture, O. V. Poteryakhin said, expansion of the scale of building up farmsteads requires increased deliveries of sets of purification equipment, boilers and other engineering equipment for rural buildings. But the industry which produces this is far from fully satisfying the actual needs.

In recent years the proportion of contracted construction in the overall volume of construction and installation work has decreased. Contracting organizations frequently do not reach the remote rural areas. Thus the kolkhozes and sovkhozes which carry out construction through their own forces have more problems.

In Kazakhstan, as the republic Deputy Minister of Agriculture, Ye. A. Kamenev emphasized, 80 percent of the housing construction is carried out this way. All this places on the agenda questions of creating their own production base for producing brick and other wall materials, extracting stone, gravel and sand, organizing timber procurements and strengthening construction brigades.

Apparently the time has come to study more attentively the needs of the kolkhozes and sovkhoses for all kinds of technical equipment and to allot it in keeping with the volumes of work.

An analytical, comprehensive approach is necessary when solving many problems of restructuring rural areas. In Belorussia, as was noted by the republic Deputy Minister of Agriculture, N. V. Nechayev, a questionnaire was drawn up for each farm which reflected the state of affairs with respect to personnel, housing and so forth. As a result, when they began to act, they knew the prospects precisely and, in keeping with this, they planned the construction volumes, distributing capital investments to the advantage of rural areas. City enterprises render all kinds of assistance to agriculture and in their shops they are assimilating the output of small technical equipment, sets of irrigation equipment and other equipment that is necessary for the peasant farmyards.

The inclination in the direction of building up farmsteads which can be seen everywhere now contributes to the development of individual construction under privileged conditions, using the funds of the population. In Lithuania, for example, as the republic Deputy Minister of Agriculture, A. L. Urbonas, announced, 67 percent of the rural housing that is put into operation has been constructed for individual builders. A large role in this building is played by the Alitus Housing Construction Combine of Litkolkhozstroy which produces single family dwellings with all the conveniences.

The experience not only of Lithuania, but also of Uzbekistan, Bashkiriya and Moscow, Dnepropetrovsk and a number of other oblasts shows that correct organization of individual construction makes it possible to increase the available housing more rapidly and to solve problems of retaining personnel.

A unique kind of continuation of the discussion about building up rural areas was the discussion of the experience in organizing the production of agricultural products on private subsidiary farms of Lvov Oblast. A good deal has been achieved in the Lvov area because of the joining of the interests of public production and the peasant farmstead. The practice of producing and procuring cattle, poultry and milk under contracts has become widespread. The population raised 70,000 head of cattle under contracts on their farmsteads. A good deal is being done to provide the residents with feeds. A network of procurement points has been

developed which practically removes all concerns about selling surplus products. All this, naturally, gives rise to a fairly high commercial significance of the private subsidiary farm, which last year sold the state 68,000 tons of cattle and poultry.

Analyzing these facts, which were presented in the report by the chief of the Lvov Oblast Agricultural Administration, L. A. Dunets, members of the board emphasized the importance of further development of the farmstead and the creation for the kolkhoz and sovkhoz families of all necessary conditions for thus improving the building up of rural areas, and also the importance of rendering all kinds of assistance in farmstead, crop growing and animal husbandry.

11772

CSO: 1824/27

VALUATION OF SERVICES IN RAPO SYSTEM EXPLAINED

Moscow *Ekonomicheskaya Gazeta* in Russian No 40, Oct 83 p 18

/Article: "Rates for Services"/

/Text/ Today we are publishing the latest discussion on approval by the rayon agroindustrial associations of the rates for services provided to kolkhozes and sovkhozes by their service enterprises and organizations of the APK /agro-industrial complex/. It has been prepared by specialists of the USSR Minsel'khoz /Ministry of Agriculture/. /The first six discussions were published in the following issues of this journal: Nos. 32, 34, 35, 37, 38 and 39/.

Enterprises and organizations belonging to the rayon agroindustrial association are performing various types of work and services for the kolkhozes and sovkhozes. They incur definite expenses in this regard. What type of economic relationships should be established between the farms and their partners?

Up until recently, a system existed in accordance with which the local organizations of Goskomsel'khoztekhnika, Soyuzsel'khozkhimiya and other branches which provide services for the rural areas, by agreement with the appropriate local organs, approved the rates (price markups, tariffs) for mechanized work carried out and services rendered at kolkhozes and sovkhozes.

In the process, the financial organs of the union republics provided those organizations and enterprises rendering services in the rural areas with planned tasks for obtaining profit, upon their carrying out certain types of work or providing services at the kolkhozes and sovkhozes. The branches and local financial organs which provide services in the rural areas were interested in obtaining profit by means of the funds being received from the kolkhozes and sovkhozes.

With regard to the associations and enterprises of Goskomsel'khoztekhnika, Soyuzsel'khozkhimiya, agricultural facilities and others, the material incentive funds as is well known are formed by means of deductions from the profits at these organizations and thus the greater the amount of profit the more money will be available in these funds and, it follows, the total amount of bonuses issued.

This led to a situation wherein the kolkhozes and sovkhoses not only covered completely all of the expenses of those enterprises and organizations which provided services for them, but in addition they became the chief source for supplementing the savings of these enterprises and organizations. In the process, when establishing the rates (price markups, tariffs) in the various republics, consideration was given to the differing amounts of overhead expenses for the service branches and to the differing profitability norms. In pursuit of profit and also bonuses, a number of service organizations tolerated incidents of incompleting work and raised rates and tariffs.

Today the relationships between the farms and the service enterprises and organizations are based upon other principles. During the May (1982) Plenum of the CPSU Central Committee, the need was recognized for having not only the volumes but also the rates (price markups, tariffs) for work performed at kolkhozes and sovkhoses and for services provided for them approved by the agroindustrial associations. The CPSU Central Committee and the USSR Council of Ministers, in the decree entitled "Improving Economic Relationships Between Agriculture and Other Branches of the National Economy" and among other important measures for improving the management mechanism, recognized the need, in the face of approval by the agroindustrial associations of the rates for services provided for the kolkhozes, sovkhoses and other agricultural enterprises and organizations and work carried out for them by the service enterprises and organizations, for establishing a profitability norm in the amount of 8 percent of the production costs for such work and services.

The production costs for work and services include expenses for the wages of workers, amortization for equipment and other fixed productive capital, fuel and lubricating materials, electric power, metal, spare parts, construction materials and other material resources and also other expenditures associated with the carrying out of certain types of work at the kolkhozes and sovkhoses and the maintenance for this purpose of engineering-technical personnel and administrative staff. Thus those enterprises and organizations which provide services for the rural areas will be reimbursed for their expenses in carrying out certain types of mechanized operations and for rendering services at kolkhozes and sovkhoses and they will be given adequate profit for the formation of various funds.

At the same time, it has been established that the total amount of profit of the production associations and departments of Sel'khoztekhnika, Sel'khozkhimiya, aquicultural, repair, operational organizations and rayon Poliv production associations must be coordinated with the appropriate agroindustrial associations and approved by the higher organizations. Profit that is coordinated and approved in the indicated manner will be taken into account when developing the plans for the state plan for the economic and social development of the USSR and the state budget of the USSR.

The new system sets forth clear limits for payments by the kolkhozes, sovkhoses and other agricultural enterprises for services rendered to the rural areas by the service branches. It is aimed at ensuring that the associations of Sel'khoztekhnika, Sel'khozkhimiya and aquicultural organizations lower their production expenses and raise labor productivity and in this manner increase their savings and deductions for the various types of incentive funds. Their

overall amount of profit may also increase as a result of an increase in the volume of work carried out at the kolkhozes and sovkhozes.

As improvements take place in the equipment and technology and as changes occur in the prices for the various goods and in the volume and structure for work and services for the kolkhozes and sovkhozes, changes will also take place in the expenses required for carrying out this work. Hence, the profitability level for the service enterprises and organizations will change. How will this be reflected in the mutual computations?

The USSR State Price Committee, by agreement with USSR Gosplan and USSR Minfin /Ministry of Finances/, has been tasked with introducing into the USSR Council of Ministers, in behalf of USSR Minsel'khos /Ministry of Agriculture/, USSR Goskomsel'khos'tekhnika and USSR Minvodkhoz /Ministry of Land Reclamation and Water Resources/ and one and a half years prior to the next five-year plan, appropriate recommendations for defining more precisely the indicated norm.

In connection with the existing cases of incorrect computations by the service enterprises and organizations with the kolkhozes and sovkhozes for work and services performed for them, the need is recognized for allowing rayon agroindustrial associations to institute legal action against such enterprises and organizations in the established manner for the purpose of obtaining from them, in favor of the farms, the overpaid amounts (provided such actions were not undertaken by the kolkhozes and sovkhozes).

It was established at the same time that when overpayments are thus recovered in favor of the kolkhozes, sovkhozes and other agricultural enterprises and organizations, the service enterprises and organizations must make a payment into the union budget amounting to 20 percent of the overpayment recovered.

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FORESTRY AND TIMBER

TIMBER INDUSTRY OFFICIAL DISCUSSES LEVEL OF MECHANIZATION

Moscow LESNAYA PROMYSHLENNOST' in Russian 27 Sep 83 p 2

[Interview with Viktor Petrovich Nemtsov, director of the Central Scientific Research and Planning Institute of Mechanization and Energy Engineering of the Timber Industry, by V. Shlemin: "A Higher Return From Forestry Science"]

[Text] In the decree recently adopted by the CPSU Central Committee and the USSR Council of Ministers, "On Measures for Accelerating Scientific and Technical Progress in the National Economy," it is emphasized that the most important task of the day is radical improvement of all the work for increasing the effectiveness of scientific and technical development. This requirement is of great significance for the timber industry as well. It is no secret that the level of mechanization, for example, of lower lumber yard work here barely exceeds 20 percent. Many people are employed in heavy, less efficient manual labor in timber procurement.

A "Lesnaya Promyshlennost'" correspondent, V. Shlemin, met with the director of the Central Scientific Research and Planning Institute of Mechanization and Energy Engineering of the Timber Industry, Viktor Petrovich Nemtsov, and asked him to answer a couple of questions that interest the newspaper's readers.

[Question] Viktor Petrovich, tell us, please, about the current condition of the use of machines and mechanisms in timber procurements and the prospects in this matter.

[Answer] Of the 299 kinds of machines included in the system for the Eleventh Five-Year Plan, 139 are produced in series and 101 are being tested or are in the stage of scientific research and experimental design work. But even the mechanisms that are produced in series still do not correspond sufficiently to today's requirements for reliability and ergonomics.

In order somehow to rectify the situation, each quarter our institute gathers data about the processing of machines at 30 support points of the country, and on the basis of the summaries that are received, it develops measures that are intended for considerably improving the reliability of the sets of the equipment. Thus, the LP-30B has proved itself well for the present, and when it began to operate it continued for more than ten-twelve hours without stopping. Now, through joint efforts, this indicator has risen practically three-fold and has reached 30 hours. The reliability of the LP-19 rolling and bailing machine has increased four-fold. In the first of the "19s" produced the quality of welding was so poor that during the severe frosts the welded seams simply broke apart. The institute's recommendation for modernizing the conditions and technology for welding work helped to change the situation for the better.

Another most important problem on whose solution a great deal depends: the lack of a machine building base is severely impeding the process of mechanization. Because of this, we are experiencing a constant shortage of machines that are extremely necessary in forestry. With an overall need for 700 of them, the Yoshkar-Olinskiy Machine Building Plant of the Ministry of Construction, Road and Municipal Machine Building produces little more than 500 LP-19's. Instead of 400 VM-4M's, the repair and machine plant in Abakan produces little more than 100. Extremely few LP-17's are produced. Yet it is mainly because of this that the Onega Tractor Plant produces only 300 TB-1m's instead of 4000.

The situation is even worse with lower lumber yard equipment. It is produced by the forestry machine building plant in Sverdlovsk. The lines produce inadequate volumes and they are not in complete sets. With an annual need for 400-500 LO-15s's, the branch receives less than 200 of them. A number of new types are not produced at all. This is what happened with the LO-105 multiblade framesaw, the LO-62 installation for group splitting and with the LO-30 set of equipment.

We cannot allow this to happen to our new developments as well. In recent years the Central Scientific Research and Planning Institute of Mechanization and Energy Engineering has created a whole series of innovations which can essentially change the state of affairs in timber procurements. They include advanced models of sets of equipment based on the LP-19-- loader and bailer with an accumulator. The logging trucks convey based on the KRAZ-260 has been improved. The new lumber truck is on a level with imported vehicles in terms of a whole series of essential indicators.

For the lower lumber yard we are preparing a system of so-called waste-free sawing of veld trees. In the new line, instead of disc saws, they will use a blade with a special design.

[Question] But, as we know, it is not enough for a mechanism to be developed or for it to be constructed. It is important to introduce it into life and into production.

[Answer] Today, we are allotting 22-24 percent of the funds from our budget for work on introducing equipment. This amounts to an average of about 2 million rubles each year.

This activity is distributed among several areas. First, the Central Scientific Research and Planning Institute of Mechanization and Energy Engineering of the Timber Industry has created a special division for introduction. It includes skilled engineering developers and operations workers. The subdivision has been assigned supervising machinists who are able to work with all kinds of modern technical equipment. A special group is ready at the first signal to go to an association that is encountering any difficulties in the assimilation of mechanisms.

Second, the installation of any innovation on the flow line is never carried out without the participation of our specialists. They are always on the spot to help in improving the technology of production and developing technical specifications. Moreover, we are conducting a large amount of work to train welders, electricians, hydraulic equipment operators and saw operators.

We also utilize traditional forms of training. On the basis of our experimental timber industry enterprises, three specialized timber technical schools are functioning. They train operators of sets of equipment and flow lines.

One cannot but mention another important form of introductory activity. Our specialists regularly travel to do supervisory installation and adjustment work. Thus, in Zabaykalsk, for example, practically all of the lower lumber yard equipment was installed with the help of the institute's workers. Incidentally, today this association shares with Sverdlesprom first place in the country in terms of the level of mechanization of lower lumber yard work.

[Question] In the decree of the CPSU Central Committee and the USSR Council of Ministers, special attention is devoted to further development of the scientific production base of the ministries and departments. The Central Scientific Research and Planning Institute of Mechanization and Energy Engineering of the Timber Industry is the largest scientific center in the country for questions of timber procurement work. How are its production subdivisions being improved?

[Answer] We have submitted a proposal to create a scientific and technical center on the basis of the institute. This is a new form of scientific production associations which has proved itself well. It has not helped

us to copy existing structures directly. Today, subdivisions of the institute have seventeen independent balances. If they were joined together, any kind of financial activity would have to be conducted by the institute. That is, the Igirminskiy Timber Industry Enterprise in Irkutsk Oblast, the Guzeripl'skiy in Krasnodar Kray, and other enterprises would have to come to us in Moscow in each case to solve financial problems. For this, and a number of other reasons, we have decided to create not an association, but a center.

In past years, we have achieved certain successes in the area of developing a production base. The volumes of construction and installation work have doubled, to 7-9 million rubles a year. And we expect perhaps even a greater effect from the renovation of the experimental mechanics plant. In the fourth quarter of this year, it is intended to put a new machine assembly shop into operation here. Having an area of 12,500 square meters, it will be equipped with the most up-to-date kinds of machine tools. Unique equipment has been installed in it for thermal processing of metal.

This year, we intend to complete the construction and equipment of experimental machine shops at our Caucasian branch. Here, we intend to arrange for the output of installations for timber procurements under mountainous conditions. We are completing the construction of a central testing ground in Olenino as well.

Nor are we forgetting about our own timber industry enterprises. We have constructed a lower lumber yard in Mostovskiy and reconstructed one in Kresttsy. Here we have also updated the repair mechanics shops and begun work for replacing equipment in the lower lumber yard of the Guzeripl'skiy Timber Industry Enterprise.

We have continued to improve the system of comprehensive utilization of timber resources. For a number of years now, our timber industry enterprises, except for the young Igirminskiy for the time being, are comprehensive timber enterprises that combine timber procurement, forestry and wood processing. This makes it possible to considerably increase the effectiveness of the utilization of raw material and the profitability of the products.

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CSO: 1824/23

FORESTRY AND TIMBER

EDITORIAL REVIEWS STATUS OF USSR TIMBER INDUSTRY

Moscow PRAVDA in Russian 16 Sep 83 p 1

[Editorial: "Forestry Potential"]

[Text] The forests of our homeland constitute a tremendous wealth. Distinct from underground resources, the forests can be restored and with intelligent use can become an inexhaustible source of raw materials. The decisions handed down during the 26th CPSU Congress directed the efforts of timber industry workers towards achieving this goal.

Each year approximately 400 million cubic meters of wood are procured in the country and the requirements continue to grow. The means for raising the efficiency of use of forest resources are embodied in the further creation, development and strengthening of all-round enterprises, facilities which will make it possible to realize the advantages of concentrating timber industry operations with the waste-free processing of raw materials.

On one occasion the CPSU Central Committee approved the initiative displayed by the Ivano-Frankovsk Oblast Party Committee in mobilizing the branch's workers in the interest of achieving efficient utilization of local forestry resources. The all-round use of forestry resources is being carried out successfully by the initiators themselves. Thus the collective of the Prikarpatles Association reduced its fellings of principal utilization by a factor of four and they began producing considerably more goods as a result of employing a waste-free technology. The output of products from one cubic meter of wood increased by more than threefold. Interesting experience was accumulated at the Vygoda Timber Combine (director I. Kalutskiy), where use was made of literally everything -- from the crown of the tree down to the roots.

The introduction of the experience of the workers in Ivano-Frankovsk Oblast into operations at enterprises throughout the country enabled USSR Minlesbumprom /Ministry of the Lumber and Paper Industries/, during the first 2 years of the five-year plan, to increase the production of marketable products per cubic meter of procurement -- to 105 rubles compared to only 98 rubles in 1980, or by 7 percent.

However, notwithstanding the advantages to be realized from all-round forestry utilization, the work is proceeding only slowly. Of 900 enterprises of USSR Minlesbumprom that are engaged in supplying 60 percent of the overall volume of wood procurements, only 42 have been combined into forestry complexes. A

number of new capabilities must be introduced into operations in 1984 and yet USSR Gosleskhoz /State Committee for Forestry/ has not as yet even issued the task for planning them. A very special need is being felt for these capabilities in those regions where intensive cuttings have been carried out during the past decade: in the Karelian ASSR and in Arkhangelsk, Kirov and other oblasts.

The creation of all-round forestry enterprises represents just one aspect of the problem. Today, in continuing the work of creating all-round enterprises, importance is also being attached to intensifying the search for reserves for achieving more efficient use of the forestry resources. The efforts of the branch's party and economic leaders must be concentrated on consistently increasing the productivity of the forests, processing the waste products of production operations, reducing wood losses, intensifying the thorough processing of the raw materials, lowering output production costs and raising production profitability. And the means for achieving this goal -- waste-free management of the economy, a high level of scientific-technical recommendations and the creation of modern technical equipment.

During the 11th Five-Year Plan, the production of progressive types of products of the timber and paper industry will undergo further development at a rapid rate. During this period, the plans call for the production of chipboard and fibreboard panels, technological chips and cardboard packaging materials. Towards this end a special purpose all-round program has been developed which calls for the creation and mastering of equipment for the all-round mechanization of timber procurements, the transporting of timber and the primary processing of the wood. Considerable progress is being achieved in the use of a waste-free technology for the processing of wood.

A great deal has already been accomplished in the interest of fulfilling this program. As a result of the introduction of a number of measures, the rates for raising the level of labor mechanization within the USSR Minlesbumprom system have been doubled compared to those for the 10th Five-Year Plan. Labor productivity is no longer declining and in fact a trend towards an increase in it is being observed.

During 2 years of this five-year plan, the series production of nine new types of equipment has been mastered and many experimental models of new equipment have been created. The volume of tree fellings by specialized machines has increased by 38.5 percent compared to 1980.

Nevertheless the technical re-equipping of the branch is still continuing at a slow pace. A plan is lacking for the modernization of the timber procurement enterprises, incidents of incomplete re-equipping of enterprises with new equipment are being observed and the training of skilled personnel is falling behind. The construction of year-round roads is being carried out at insufficient rates.

Here the machine builders must be held strictly accountable. For example, Minstroydormash /Ministry of Construction and Road Machinery Manufacture/ is not supplying the required quantities of roller-skidding machines. Those units which are being delivered to the various areas must be moved directly into the forests. Minsel'khoz mash /Ministry of Tractor and Agricultural Machine

Building/ and Minavtoprom /Ministry of the Automotive Industry/ are dragging out the acceptance tests on a number of new mechanisms ordered by the timber procurement specialists.

The forestry workers are expecting to receive a great deal from the scientists. An acceleration is required in the development of technological processes and machine complexes for carrying out improvement cuttings, with the wood procured being processed into technological chips directly in the forest and effort must be concentrated on searching for new items of technical equipment which will ensure a maximum output of products from each cubic meter of wood. Just as in the past, the problem of making greater use of soft deciduous strains in the all-round industrial processing of wood continues to remain acute.

The November (1982) and also the June (1983) Plenums of the CPSU Central Committee focused special attention on the existing reserves for intensifying the country's economy. The experience of leading enterprises reveals that these reserves consist of accelerating scientific-technical progress, introducing scientific and engineering achievements into production operations and achieving complete processing of the raw materials.

The party committees of the branch's enterprises must devote greater attention to these problems. Proper order in all economic affairs, firm discipline -- these are decisive conditions for the successful fulfillment of the decisions handed down during the 26th CPSU Congress with regard to strengthening and developing the country's forestry potential.

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CSO: 1824/53

FORESTRY AND TIMBER

ADMINISTRATION OF RSFSR TIMBER OPERATIONS DISCUSSED

Moscow LESNAYA PROMYSHLENNOST' in Russian 27 Sep 83 p 1

[Article by V. Kirnos, chief inspector for main activities, Goslesoinspektsiya [State Forestry Inspectorate] RSFSR Ministry of Forestry: "Who Is To Cut the Forest"]

[Text] Forests have a great role in the economy's development. The gradual shift of the main logging operations to remote, sparsely inhabited regions hinders the delivery, at extraction prices, of large inputs of lumber. This obligates loggers, processors and consumers to more rationally use the forest resources allocated to them, to strive to use trees' entire biological mass, more thoroughly process trees which have been cut and to economically use sawn timber.

However, logging is still accompanied by huge losses amounting to millions of cubic meters. One of the reasons for this is that dozens of different organizations in the nation are involved in it. At the present time in the RSFSR Goslesfond [State Forestry Lands], for example, more than 50 ministries and departments are conducting logging operations. The cutting volumes are not declining but increasing. The majority of loggers are working in the heavily forested zone of the RSFSR (more than 23,000 enterprises and organizations). The better quality stands of coniferous timber are growing here. Thus, in Krasnoyarsk Kray logging is conducted by more than 37 ministries and departments, represented by more than 1,000 enterprises.

Many of them do not have their own forest reserves, settlements, logging roads and permanent brigades. Without these it is impossible to use progressive technology and guarantee the necessary work quality. Therefore, the felling areas obtained are not completely utilized, proper logging techniques are not observed, regrowth and young trees of valuable forest species are destroyed and large amounts of deciduous and small coniferous timber are left on the felling lots. This is because each operation works only with a view to departmental requirements for certain timber.

In 1982 in Krasnoyarsk Kray 4 million cubic meters of the 4.9 million limit were utilized. The worst of all were enterprises of Minrybkhoz [USSR Ministry of Fisheries] (25 percent), RSFSR Ministry of the Fruit and Vegetable Industry (18.5 percent) and the RSFSR Ministry of the River Fleet (13.3 percent).

A review conducted by the Goslesoinspektsiya of the RSFSR Minleskhoz [Ministry of Forestry] in the Komi ASSR and Krasnoyarsk Kray established that these shortcomings are intensified by weaknesses in equipment availability and the lack of the facilities essential for the thorough processing of wood. Thus, the Mel'nichnyy Lespromkhoz [Timber procurement establishment], with an annual plan for transporting 70,000 cubic meters, only saws 7,000 - 8,000 cubic meters each year, i.e. 10-11 percent. Most of this is on two old R-65 saw frames housed in a dilapidated wooden barn and is not resawn!

The situation is even worse with respect to the processing of thin dimensioned commercial timber and off-cuts. Thousands of cubic meters accumulate each year at lower storage areas. In time the wood loses all of its technical qualities and is written off. For example, at the beginning of 1982 the Lipetsk Lespromkhoz of the Oblmezhkolkhozstroy [Oblast inter-kolkhoz construction] Association, located in the Komi ASSR had in its lower storage areas 13,000 cubic meters of wood holdovers from previous years' logging and 21,000 cubic meters of firewood. This is equal to 73 percent of this enterprise's annual shipments of timber. In 1982 alone the lespromkhoz failed to use 8,700 cubic meters located in the lower storage areas, or almost 18 percent of timber shipments. In addition, 3,800 cubic meters were left in the felling area uncut and 2,000 cubic meters were cut but not hauled out.

Not developing capacity for the complete use of wood or for the use of small commercial timber and wastes, these enterprises burn the upper parts of limbed trees (actually pulpwood and pit props) as slab and firewood waste at burners in lower storage areas. There is no accounting of the quantity of such wood and nobody bears responsible for its destruction. Just the North Caucasus Lespromkhoz of Kraymezhkolkhozstroy, working in the Komi ASSR annually burns 5,500 cubic meters of slabs.

Gross violations of rules for timber utilization and logging by local initiative cause serious losses because of penalty payments. This leads to increases in prime costs per cubic meter of wood transported. In 1982 at the Dzhambul Procurement Section of the Kazakh SSR Ministry of Agriculture, cutting in Krasnoyarsk Kray, they were twice as high as at enterprises of Krasnoyarsklesprom and the Kray Forestry Administration.

Among the quite important reasons for the irrational use of timber resources are the lack of centralized management and planning over the work of small independent logging organizations and the lack of centralized timber supply to meet republic and local requirements for wood.

Obviously, one of the major measures to bring order into timber use and to ensure the most complete and rational use of forest resources would be the transfer of cutting and transport as well as the production capacity of ministries and departments of union subordination and union republic councils of ministers in heavily forested regions of the RSFSR to the USSR Minlesbumprom [Ministry of the Timber, Pulp and Paper, and Wood Processing Industry].

A first order and urgent measure here should be that of bring order to the work of independent logging operations. This means uniting lespromkhozes and forestry sections of union and republic ministries, for example, the RSFSR Ministry of

Agriculture, Ministry of Rural Construction and the Ministry of the Fruit and Vegetable Industry, the Goskomsel'khoztekhnika, Roskolkhozstroy [RSFSR Kolkhoz Construction] Association and the lespromkhozes in various oblasts under the leadership of the Ministry of Agriculture and organizing a head association. This would solve the problem of supplying timber to enterprises in the agro-industrial complex. In order for ministries and departments to completely utilize wood, it is essential that production plans include: the output of short assortments of coniferous and deciduous species and their delivery to the planned customers, timber cutting by methods protecting economically valuable young trees, the timely cleaning of cutting areas and their transfer to forestry organs in a condition suitable for mechanized work.

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OSD 1826/22

FORESTRY AND TIMBER

PROBLEMS IN UTILIZATION OF TIMBER TRANSPORT

Moscow LESNAYA PROMYSHLENNOST' in Russian 30 Aug 83 p 2

[Article by A. Ivankovich, sector chief of the All-Union Scientific and Planning and Economics Institute of the Timber Industry: "Where to Look for Cars"]

[Text] In recent years the provision of rolling stock for timber procurement enterprises has remained at a level of 70-85 percent of the plan. The situation will hardly improve in the near future. Yet the decree of the CPSU Central Committee and the USSR Council of Ministers concerning observance of contractual commitments for the delivery of products emphasizes the large role of transportation in this important matter. And so the problem rises, as it were, to its full height: How to improve the utilization of railroad cars?

One of the most effective means of solving this problem is to make the shipments of timber cargos more efficient. Analysis shows that each year up to 5 billion ton-kilometers of unproductive, superfluous work is done shipping timber on the steel mainlines. More than 1000 cars and 16 locomotives are used for this.

This is the result of shipments whose routes cross both over long distances and on short hauls. And they, in turn, are the result of the fact that the suppliers are not always correctly assigned to the consumers. As calculations on electronic computers show, the optimal assignment reduces the average shipments by five-eight percent. The routes of shipments must be revised annually: new timber procurement enterprises are being created, new suppliers are appearing, the program for the assortment is changing with a transfer to other felling areas, and so forth. Otherwise, inefficient shipments accumulate.

Take, for example, firewood. If it is delivered over a distance of 900 kilometers the transportation expenditures exceed the wholesale price. This is generally known. Nonetheless, each year almost 1.5 million cubic meters of this wood are shipped over a distance of 1000 kilometers. And what is especially inadmissible is about one-third of this amount is shipped to regions which have timber procurements and the amount of

branches that are left exceeds 17 million cubic meters. Can one really put up with a situation, for example, where firewood is delivered to Leningrad Oblast from Sverdlovsk, Chelyabinsk and Tyumen Oblasts? The more so since Leningrad workers annually fail to make use of more than 2 million cubic meters.

And yet this is not the only case. Last year, 1.6 million cubic meters of firewood were shipped from European-Ural zone of the country to other regions and 1.7 million cubic meters were shipped in. These are counter-shipments. The situation is the same with commercial timber and this is an alarm signal that the local handling of timber has been poorly arranged. One cannot recognize as normal, for example, the circumstance that mills which were intended at one time for coniferous raw material, when it was all gone, were not adjusted to process deciduous timber, and they are beginning to ship in coniferous wood. The matter comes to a paradox: on the same cars in which the coniferous timber arrived, they ship out deciduous wood for other consumers. They "forget" about their own needs. This same Leningrad Oblast receives 3 million cubic meters of commercial timber but fails to make use of more than 3 million cubic meters of timber from its own felling areas.

The present system of accounts in the chain, supplier-transportation-consumer, impedes reducing the number of extra long distance shipments. The dispatcher is not bothered at all by the distance over which his products are shipped. The present wholesale prices do not stimulate more efficient transportation and economic ties. The suppliers are now placed in a position where they can pay any transportation expenditures. Those who form the economic ties between suppliers and consumers--the timber supply and sales agencies--are also relieved of material responsibility for extravagance in shipments. Nor does it make any difference to the recipients where the timber comes from: in any case, they pay for it only in terms of one large timber belt or another. And railroad workers even prefer long routes. And so it turns out that there is nobody who wants to reduce these routes.

How does one change the situation? The system of deliveries must be arranged in such a way that the dispatcher is economically dependent on the geographical location of the consumer and vice versa. In this case, the related workers will be more concerned about the utilization of local raw material resources. And this means that counter-shipments and other inefficient flows of transportation will result in losses.

With the current overloading of the railroads one should not forget about such a reserve as transferring some of the shipments to automotive and water transportation. Now, about 19 million cubic meters of timber are shipped on the railroads over a distance of up to 100 kilometers. And motor vehicles should actually be used here. Specialists have calculated that the productivity of a railroad car on a route of up to 100 kilometers is one-third-one-fourth the average for the network, up to 50 kilometers one-seventh and up to 25 kilometers one-fourteenth.

There is now a possibility of transferring more than 10 million cubic meters of round timber to automotive transportation. This will make it possible to remove 200,000 cars from work with inefficient shipments. It should be noted that the RSFSR Ministry of Automotive Transportation is unwilling to ship round timber, referring to the fact that general purpose motor vehicles cannot be adapted for this. It is necessary to have specialized truck trains. And they must be the kind which can be used in the reverse direction for delivering other cargos, thus precluding deadhead runs.

The water routes can and should be a great support in the current transportation situation. The Yaroslav river port, for example, can receive 500,000 tons of timber a year from the railroads, but only 20,000-30,000 tons are shipped there, the Gorkiy river port receives 180,000 tons instead of 700,000, and the Perm -- 120,000 tons instead of 750,000. At the enterprises the receipt of timber from the water is impeded by a lack of docks. The Arkhangelsk Pulp and Paper Combine has such a dock, and during the course of a year local paper producers load their products directly onto the ships, thus precluding deliveries on the railroad from the combine to the port. The same thing should be done by the Kotlas Pulp and Paper Combine which is constantly in need of covered railroad cars.

The question of reducing the number of self-procurement workers to a minimum has become crucial. They cause an appreciable amount of trouble in the work of transportation, and in any case, they increase the volume of counter shipments of assortments of the same kind or which are interchangeable. Thus, in Kalinin Oblast alone, the procurements of timber are carried out by sixteen ministries and departments, and it is processed by 59 of them. All this comes down on the railroads in the form of 250,000 ton-kilometers of work.

There is no doubt that an important means of relieving the railroads of inefficient shipments can be the delivery of tree-length logs on specialized rolling stock. Last year 7.5 million cubic meters were shipped this way, as a result of which 140,000 cars of the Ministry of Railways were released. The effect would be even more appreciable if the static load of the log cars were increased and their turnover were accelerated. Suffice it to say that every million cubic meters delivered on them reduces the need by 85,000 cars.

Incidentally, let us mention increasing the static load. During the past ten years we have managed to increase it by a average of only 0.1 cubic meters. Every other car is underloaded in terms of height by 0.5-1 meter, that is by three-eighth cubic meters. About twenty percent of the round timber that is shipped is not as long as the car is. This complicates its complete loading: it is below the norm by ten-twenty cubic meters.

A more effective method of shipment is in packets. This makes it possible to increase the static load of the cars by three-eight cubic meters and to reduce the idle time to one-third-one-half the previous amount. But the possibilities of shipping timber in bundles are poorly utilized: the level is little more than ten percent. Of course, the shortage of ropes also has its effects, as does the inadequate motivation to develop this progressive method. But the main problem is the fact that the technology of the lower lumber yards cannot be adapted to shipment in bundles and that their technical support is poor. Up to this point there are no bundle forming machines, and everything is done by hand. Moreover, the cargo capacity of the present cranes makes it possible to load bundles formed of timber materials which are no more than four meters in length. All these problems require immediate solutions. For every million cubic meters that are sent in bundles release 2000 railroad cars.

Also on the agenda is such an urgent problem as concentration of deliveries. In Krasnoyarsk Kray now, coniferous saw timber is being sent to more than 50 oblasts, and from Arkhangelsk and Kirov Oblasts--to more than 23. This dispersion impedes consolidating the delivery routes. Yet the daily speed of delivery of timber along the routes is twice as great as on ordinary trains. Consequently, there is also a reduction of the need for rolling stock. So far, the level of concentration of timber shipments does not exceed seventeen percent. Just as the result of consolidating deliveries, it can be raised to 25-30 percent, and this can result in releasing 460,000 railroad cars. Many advantages are promised, for example, by the organization of routes for groups of cars with various assortments. These developments which were carried out by the All-Union Scientific Planning and Economics Institute of the Timber Industry last year were submitted to Soyuzglavles. But the sales workers are not hurrying to introduce them.

Workers of the Kotlas Pulp and Paper Combine have become convinced of the advantages of establishing these routes. Raw material is delivered here on rotating routes. As a result the deliveries have been stabilized and the cars are loaded much more completely. The economic effect with delivery distances of up to 800 kilometers amounts to 1.2-1.6 rubles per cubic meter. The Kotlas workers, incidentally, skillfully use direct economic ties, orienting the suppliers toward specialization in the assortments that are shipped.

In a word, making shipments more efficient is multifaceted work. The greatest effect is achieved by those who apply a complex of measures for its implementation. But each component individually also produces no small economic effect. The utilization of the rolling stock is improved, the shortage of it is reduced, and this means that the need of our branches for shipments is satisfied more fully.

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CSO: 1824/12

FORESTRY AND TIMBER

TECHNOLOGY OF TIMBER PROCESSING OPERATIONS REVIEWED

Moscow EKONOMICHESKAYA GAZETA in Russian No 41, Oct 83 pp 1-2

/Review by Department of Timber Industry Complex of USSR State Committee for Science and Engineering: "Complete Processing of Wood"/

/Text/ A considerable increase in the complete processing of wood raw materials, as called for in the decisions handed down during the 26th party congress, is being realized as a result of rapid development in the production of progressive types of products and the introduction of new equipment. The scientific-technical program entitled "The Creation and Mastering of Technological Processes and Automatic Equipment of Great Individual Capability for the Production of Products of the Wood-Working Industry, With Complete Use Being Made of Wood Raw Materials" is being realized based upon the efforts of 40 NII's /scientific research institutes/, KB's /design bureaus/ and enterprises representing dozens of ministries and departments during the 11th Five-Year Plan.

The program includes six tasks for the creation of materials, technologies and equipment for the production of lumber, plywood, wood panels, wooden housing construction and furniture.

New Quality

One of the principal tasks of the program is aimed at creating an automated complex of sawmill equipment based upon the use of belt-sawing and milling-cutting machines. Here we have in mind the possibility of obtaining simultaneously boards and technological chips for the pulp and paper industry during the processing of logs. Such a method makes it possible to utilize all of the raw materials more completely and to raise labor productivity during sawing operations by twofold.

In accordance with the technology and technical requirements issued by the Central Scientific-Research Institute for the Mechanical Processing of Wood, the leading design bureau for the planning of wood-working equipment and the Vologda Machine-Tool Production Association produced the LFP-2 model milling-cutting line (for the lengthwise sawing of logs) and an LFP-3 model (for the lengthwise sawing of beams). The initial models were installed and tested at the Solombalskiy Sawmill and Wood-Working Combine in Arkhangelsk. The plans call for series production to commence in 1984.

Production of the Principal Types of Products of the Wood-Working Industry
(per 1,000 cubic meters of wood shipped)

	1970	1980	1985 (Plan)
Glued plywood (cubic meters)	5.3	5.7	6.9
Fibreboard (square meters)	541	1340	1767
Chip board (cubic meters)	5.2	15.4	22.3

In the production of lumber, as is well known, a great amount of manual labor is required for grading the boards. In accordance with one task of the program, an automatic line has now appeared for grading the lumber raw materials that has a productivity of 90 boards per minute. The Vologda SPO /Consumer's Societies Union/ supplied the Kharovsk LDK /Sawmilling and Wood-Working Combine/ with an experimental-industrial model of this line.

Unfortunately, the Vologdalesprom Association (the chief is I. Moskvina) delayed the construction of a department in which this new equipment was to have been installed. As a result, the installation and testing of the line are being held up.

The placing in operation at Syktyvkar of a timber industry complex of automatic equipment for the production of large-form plywood (including with surface finished off), with a productivity of 100,000 cubic meters annually, is the result of fulfillment of a large task of the program. The Nauchfanprom NPO /Scientific Production Association/ has developed a technology for producing and finishing off such plywood and it has issued the initial requirements for creating the equipment needed.

The Yaroslavl Machine Tool Production Association of Minstankoprom has created working documentation for automatic equipment for the preparation of raw materials and the production of large-form plywood. The Mari Branch of the All-Union Scientific-Research Institute of Paper has developed new types of paper -- used for the finishing off of plywood, the industrial production of which is scheduled to commence in 1985 at the Mary Pulp and Paper Combine of USSR Minlesbumprom /Ministry of the Timber, Pulp and Paper and Wood Processing Industry/.

Glued plywood has high technical and operational qualities and in many instances it surpasses the properties held by wood proper and it is being employed in various branches of the national economy. The technical advisability of using large-form plywood in supporting and enclosing construction structures is based upon its high durability and low volumetric mass.

At the present time, new spheres of use have been found for plywood in industrial and civil construction. Plywood panels with different coverings can be used in place of metal and lumber in the production of sheathing, railroad freight cars, motor vehicle bodies and containers. The Ukrainian Scientific-Research Institute for the Development of Machines and Equipment for the Processing of Plastic, Rubber and Artificial Leather (UkrNIPlastmash) has developed the technical documentation for the LPM-1850 model line for the production of polymer facing material.

The problem now rests with the USSR Minlesbumprom, which is delaying unjustifiably the issuing of a request and order for funds for producing the line and this threatens to disrupt the fulfillment of this task.

Wooden housing construction is presently based upon the use of solid wood and plywood and this involves high expenditures of raw materials and delays in raising labor productivity. The production of panels made out of large-size chips will make it possible to replace effectively both lumber and plywood. The savings to be realized from developing one set of equipment for the production of such panels, with a capability for producing 60,000 cubic meters annually, will amount to more than 3 million rubles. However the work is still being carried out in a slow manner. USSR Minlesbumprom has still not decided at which enterprise this equipment is to be installed and Minstankoprom /Ministry of the Machine Tool and Tool Building Industry/ has not issued the technical documentation.

It Will Not Burn In a Fire

Fire resistant and atmosphere resistant wood materials for the construction of railroad cars are presently being developed in conformity with the program. New types of products are actually being created -- fire resistant fibreboard and plywood panels which combine all of the positive features of wood materials and lack the chief shortcoming -- combustibility.

Seven ministries and departments and more than 20 organizations and enterprises are participating in the work. The majority of them began their work in a timely manner and in the case of individual stages fulfilled their tasks ahead of schedule. Thus, in connection with the creation of fire-resistant fibre panels the work is now 1 year ahead of the schedule called for in the program.

Annual Productivity of One Worker Engaged in Sawmill Operations (in cubic meters)

1975	275
1980	372
1985	400

A definite complex of operations has been defined for isolating impregnating compounds and new gluing materials, for creating special equipment for producing panels and also for manufacturing and testing experimental models of railroad passenger cars involving the use of these materials.

In carrying out the required scientific-research and experimental work, the Soyuznauchlitprom VNPO /All-Union Scientific Production Association/ of USSR Minlesbumprom created fire-resistant fibreboard panels, the experimental-industrial models of which underwent successful testing at the appropriate organizations of MPS /Ministry of Railroads/, Gosstroy USSR, Mintyazhmash /Ministry of Heavy and Transport Machine Building/ and others.

The results of the tests revealed that fire-resistant fibreboard panels with polymer-mineral finishing off, in terms of their sanitary-chemical properties, are biologically harmless and can be employed in railroad passenger cars. The

panels belong to a group of materials which are difficult to burn and in which flames spread slowly. They also conform to the normative requirements in terms of their thermo-physical and acoustic properties.

The Kalinin Railroad Car Building Production Association produced an experimental model of a railroad passenger car ahead of schedule. The fire-resistant fibreboard panels were used for the floors and ceilings, for lining the longitudinal walls and for shelves. The tests were carried out under operational conditions.

Upon commencing work in 1981, the Nauchfanprom Scientific Production Association, the All-Union Scientific Research Institute of the Iodine-Bromine Industry and the Scientific Research Institute of Plastics did not have any scientific work in progress in connection with the fire-resistance of glued wood. The task was carried out on schedule. In the process, an equally important result was achieved: the production of chemical products used for providing plywood with fire-resistant properties does not require special capabilities.

A set of equipment must be placed in operation for impregnating the plywood with antipyrine and for drying it out. The organizations of Minkhimnash /Ministry of Chemical and Petroleum Machine Building/ (Deputy Minister P. Grigor'yev) are developing another unit for the set -- an impregnating unit and as yet no work has commenced in connection with drying out the plywood. As a result, the work being carried out by Minkhimnash in connection with creating fire-resistant plywood panels is proceeding very slowly.

For New Settlers

In the production of furniture, the assembly, packing and storing of the units continue to be highly labor-intensive operations. During the current five-year plan, the materials, technology and equipment for mechanizing and automating these processes must be developed.

Since the beginning of the five-year plan, a laboratory of the Yerevan Branch of the Plastpolimer NPO has developed a prescription for a dispersion glue, an experimental-industrial batch of which was tested at a leading enterprise of Moskomplektmebel'. The glue has been recommended for use in the mechanized assembly of furniture.

The VPKTIM /All-Union Planning-Design and Technological Institute of Furniture/ has developed special furniture and a technological process for assembling it without the use of screws. An experimental-industrial batch was produced at the Karachev Experimental-Mechanical Plant of VPKTIM and tested at the Kuban' Association.

The plans call for the series production of new glues and furniture to commence prior to the end of the five-year plan.

The VNIIDMASH /All-Union Scientific Research and Design Institute of Wood-Working Machinery/ and special design bureaus for the planning of wood-working machines (SKBD-1, SKBD-4 and SKBD-6) have developed equipment for the

installation of hinges, locks, tightening devices, laths and fasteners and also a line for assembling small items of furniture. The plans call for the equipment to be produced in 1984. Its use will make it possible to raise labor productivity during assembly operations by a factor of 4-5. The Plastik NPO has recommended the use of polymer expansion layers for the packing of furniture, the testing of which was carried out by the All-Union Scientific-Research and Experimental-Design Institute of Packaging and Wrapping.

This same task calls for the creation and placing in operation in 1984 of equipment for a standard automated storehouse for the storage of furniture items and parts at the Pyussi Wood Panel Combine in Estonia. The technical documentation has been prepared by the All-Union Scientific-Research and Experimental-Design Institute of Commercial Machine-Building of Mintorgmash.

One important trend in this program is associated with the extensive introduction of panel housing construction. During the past year, the overall production volume for plant-produced wooden homes in our country amounted to approximately 4 million square meters. Panel construction homes constituted the greatest proportion -- 44.5 percent. The production of such homes is increasing with each passing year. And this is quite understandable: they possess a number of advantages when compared to square beam and shell homes. The use of panel structures makes it possible to reduce the periods required for assembling the homes and it raises considerably the labor productivity of the builders. Panel construction homes are well suited for severe climatic conditions.

During the 10th Five-Year Plan, in accordance with the scientific-technical program, equipment with a capability for producing 100,000 square meters of overall space annually was created and developed for the production of homes made from small panels 3.6 meters in length. At the present time, the program calls for the development of equipment for large-panel housing construction. The length of the panels has been increased to 6 meters and this provides an additional advantage during assembly of the homes.

The program includes a task for issuing complete equipment for the production of 250,000 square meters of panel construction housing space annually. The installation and testing must be completed at the Shar'yadrev Association (Kostroma Oblast) in 1983. However the association did not complete the construction of the department in a timely manner and thus fulfillment of the task was postponed until 1985.

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